THE CITADEL
CATALOGUE
1987-1988

BULLETIN
OF
THE CITADEL

THE MILITARY COLLEGE OF SOUTH CAROLINA
CHARLESTON, S.C.

FOUNDED 1842

CATALOGUE ISSUE
1987-1988

"I call, therefore, a complete and generous education that which fits a man to perform justly, skillfully, and magnanimously all the offices, both private and public, of peace and war."—Milton

THE CITADEL ALUMNI DIRECTORY

MAJOR GENERAL JAMES A. GRIMSLEY, JR., USA, RETIRED
President

BRIGADIER GENERAL GEORGE F. MEENAGHAN
Vice President for Academic Affairs and Dean of the College

Table of Contents

College Calendar 6
History of The Citadel 9
General Information 12
Requirements for Admission 20
Academic Policies 31
Military Policies 50
ROTC Programs 57
Expenses 67
Scholarships 80
Financial Aid 101
Department of Student Activities 109
Department of Intercollegiate Athletics 112
Honors and Awards 114
Honors Program 123
Evening College 125
Courses of Study 129
Department of Aerospace Studies 166
Department of Biology 169
Department of Business Administration 179
Department of Chemistry 187
Department of Civil Engineering 197
Department of Education 209
Department of Electrical Engineering 221
Department of English 229
Department of History 240
Department of Mathematics and Computer Science 251
Department of Military Science 261
Department of Modern Languages 265
Department of Naval Science 275
Department of Physical Education 280
Department of Physics 295
Department of Political Science 303
Department of Psychology 317

Organization

- Board of Visitors 321
- Advisory Committee to the Board of Visitors 322
- Senior Administrative Staff 323
- Administrative Department and Activity Directors 323
- Administrative Staff Departments 325
- Auxiliary Activity Directors 325
- Faculty 326
- Visiting Faculty 343
- Emeriti Faculty 344

ndex 346

1987-1988 COLLEGE CALENDAR

1987—Fall Semester

August 2, Sunday	Athletic cadre reports; 1300 muster
August 6, Thursday	Freshmen athletes report; 1400 muster
August 10, Monday	Cadre reports; 1300 muster
August 16, Sunday	Freshman band prospects report; 1200 muster
August 17, Monday	New cadets report; Graduate and Evening Registration begins
August 23, Sunday	Old cadets report; 1600 muster
August 24, Monday	Registration; Evening and graduate classes begin
August 25, Tuesday	Day of Advisement
August 26, Wednesday	Day classes begin
September 3, Thursday	Last day to add a course or change sections
October 10, Saturday	Parents' Day (VMI)
October 14, Wednesday	Mid-term grading period ends
October 26, Monday	Pre-registration for spring semester begins
October 27, Tuesday	Period of academic advisement; 1100-1200
October 29, Thursday	Pre-registration for spring semester completed
October 30, Friday	Last day to withdraw with a grade of "W"
November 3, Tuesday	Election Day; classes will be held
November 14, Saturday	Homecoming (Appalachian State)
November 24, Tuesday	Thanksgiving furlough begins after last scheduled morning class or 1200 (which ever comes first)
November 29, Sunday	Thanksgiving furlough ends; 2230 muster
November 30, Monday	Classes resume
December 7, Monday	Graduate and evening examinations begin; Day classes end
December 8, Tuesday	Reading Day
December 9, Wednesday	Day Examinations begin
December 10, Thursday	Graduate and evening examinations end
December 16, Wednesday	Examinations end; first semester ends

***NOTE* On December 7, class schedules for the undergraduate day program to be followed are those for Tuesday.**

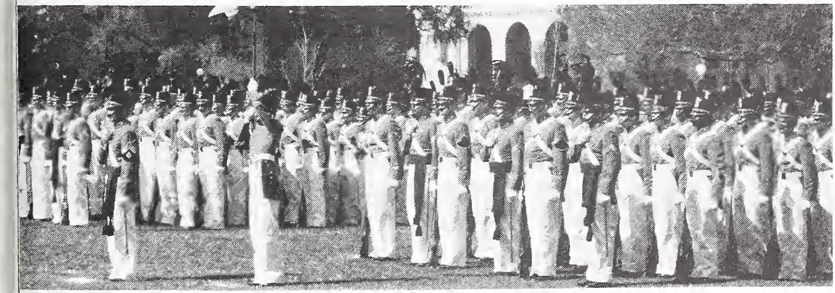
1988—Spring Semester

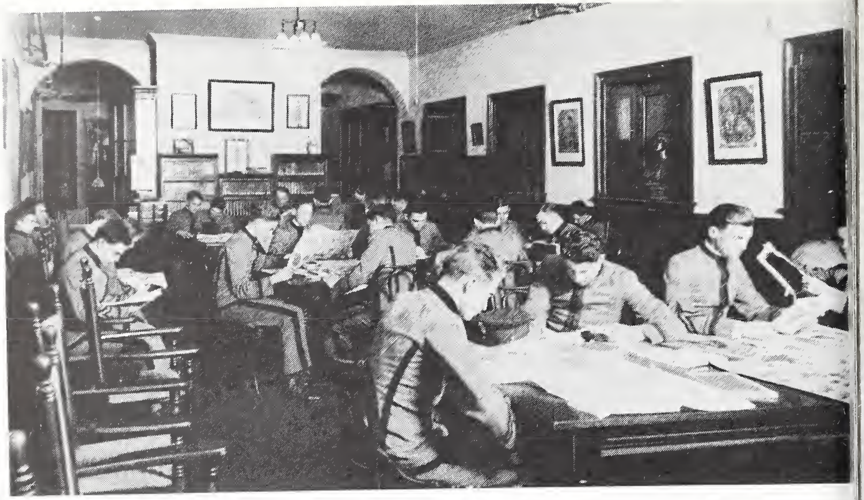
January 4, Monday	Graduate and evening registration begins
January 10, Sunday	Christmas furlough ends; 2230 muster
January 11, Monday	Registration; evening and graduate classes begin
January 12, Tuesday	Day of advisement
January 13, Wednesday	Day classes begin
January 21, Thursday	Last day to add a course or change a section
March 9, Wednesday	Mid-semester grading period ends
March 18, Friday	Last day to withdraw with a grade of "W"
March 19, Saturday	Corps Day
March 21, Monday	Pre-registration for fall semester begins

March 22, Tuesday	Period of academic advisement; 1100-1200
March 24, Thursday	Pre-registration for fall semester completed
March 25, Friday	Spring furlough begins after last scheduled class
April 3, Sunday	Spring furlough ends; 2230 muster
April 4, Monday	Classes resume
April 25, Monday	Evening and graduate examinations begin
April 28, Thursday	Evening and graduate examinations end
April 29, Friday	Day classes end
May 2, Monday	Day examinations begin
May 10, Tuesday	Day examinations end
May 11, Wednesday	Graduate commencement
May 14, Saturday	Commencement

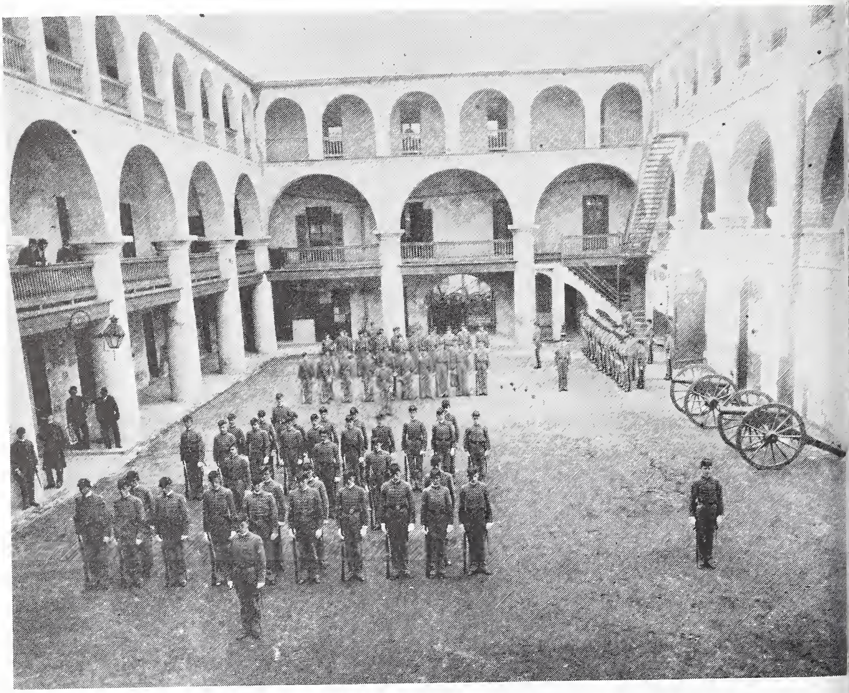
1988—Summer School

May 30, Monday	Summer School registration begins
June 6, Monday	First session registration; evening session classes begin
June 7, Tuesday	First session classes begin
June 9, Thursday	Last day to add a course or change sections in first session
June 13, Monday	Last day to add a course or change sections in evening session
June 24, Friday	Last day to withdraw with "W" in first session
July 4, Monday	Independence Day; no classes will be held
July 5, Tuesday	Last Day to withdraw with a grade of "W" in evening session
July 7, Thursday	First session examinations begin
July 8, Friday	First session examinations end; first session ends
July 11, Monday	Second session registration
July 12, Tuesday	Second session classes begin
July 14, Thursday	Last day to add a course or change sections in second session
July 20, Wednesday	Evening session examinations begin
July 21, Thursday	Evening session examinations end
July 29, Friday	Last day to withdraw with a grade of "W" in second session
August 11, Thursday	Second session examinations begin
August 12, Friday	Second session examinations end; summer graduation exercises





CIRCA 1919. Citadel cadets study in library of the Old Citadel on Marion Square.



December 23, 1892. Corps of Cadets on the quadrangle of the Old Citade on Marion Square.

History of The Citadel

The Old Location and the New

From December 20, 1842, when the legislature of South Carolina passed an act providing for the establishment of The Citadel, to September 1922, the college was located on Marion Square. Since 1922, The Citadel has been situated on a beautiful campus between Hampton Park and the Ashley River.

The Origin of the Name

The Citadel derived its name from the building in which it was first housed. Erected as a state arsenal after the Denmark Vesey slave uprising n 1822, this sturdy old fortress, which still dominates Marion Square, was called The Citadel. It was garrisoned by Federal troops, then by state troops, until they were replaced in March 1843 by 20 students who comprised the first Corps of Cadets. The cadets served as guards for the state's arms and pursued a course of study designed to make them useful citizens in time of peace as well as war.

With its sister college, The Arsenal, established at the same time in Columbia, The Citadel was a part of the South Carolina Military Academy. In 1845, regulations governing the institution subordinated The Arsenal to The Citadel, and thereafter The Arsenal trained only freshmen. The Arsenal burned in 1865 and was never reopened.

The Citadel in the Civil War

The founders—men like General D. F. Jamison, who later presided over the convention at which the Ordinance of Secession was signed, and Governors J. P. Richardson and J. H. Hammond—had foreseen that the state would need men with military training. When trouble between the North and South erupted in war, the record of Citadel alumni and cadets vindicated the foresight of the founders. Of the 224 alumni living at the time of the Civil War, 193 wore the Confederate gray, all but 20 as commissioned officers and four as generals. Sixty-seven were killed in battle.

On January 9, 1861—before the firing on Fort Sumter—cadets of the Corps manned the guns which drove back from the entrance of Charleston Harbor the *Star of the West,* a steamer sent by the Federal Government to relieve the fort. Made a part of the military organization of the state by legislative act of January 28, 1861, the Corps of Cadets helped emplace and guard artillery on James Island, performed guard duty in Charleston, and on December 7 and 9, 1864, suffered several casualties in engagements with Union troops at Tulifinny Creek near Yemassee Station.

From February 18, 1865, when a Union force marched into Charleston, until April 1879, the buildings on Marion Square were occupied by Federal troops, and the operation of the college was suspended.

The Reopening After the Civil War

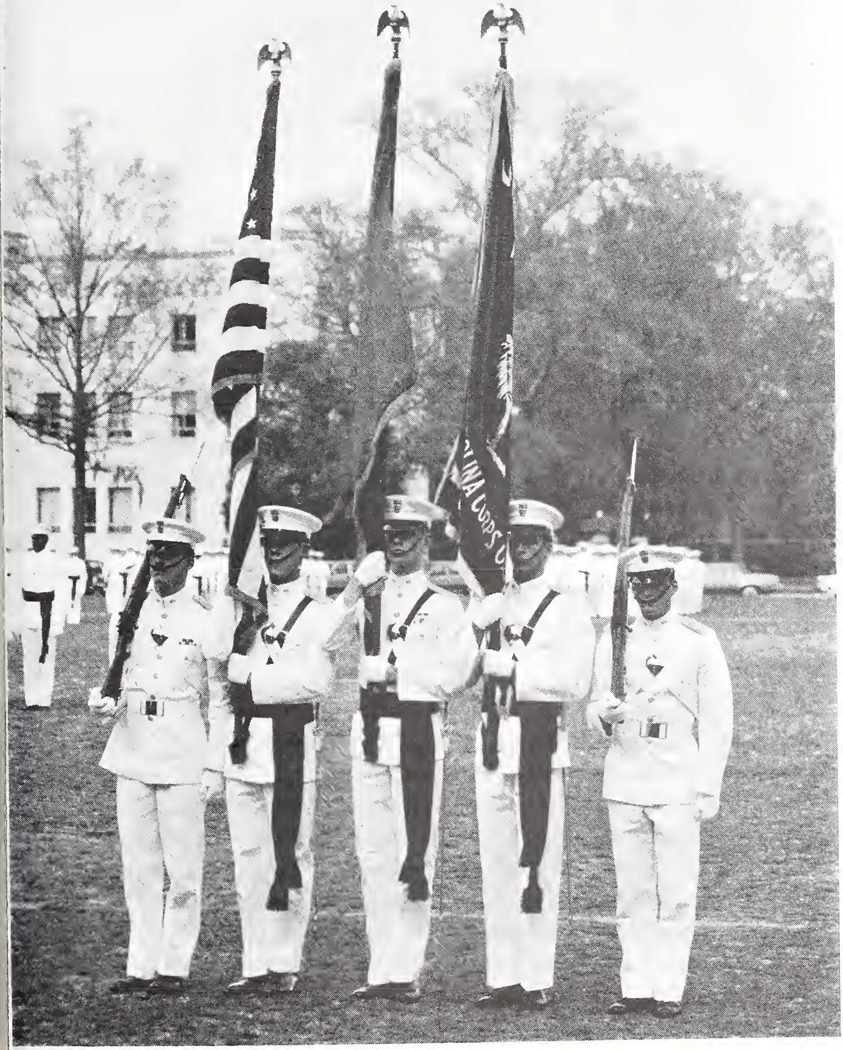
The Citadel reopened on October 2, 1882, with an enrollment of 185 cadets. Though the Corps no longer served as arsenal guard, the military system of the antebellum years was continued.

In 1910 the name of the college was changed to The Citadel, The Military College of South Carolina. During the administration of Mayor T.T. Hyde, the City Council of Charleston gave the state the present site of the college in 1918. In the fall of 1922 the college began operating at its new location.

The Student Body

In 1864 there were 145 cadets in the Corps. When the move to the new campus was made there were almost 300. In 1947-48, 2,271 students were enrolled, including cadets and veterans. Nearly 3,500 veterans of World War II and the Korean Conflict, most of whom were civilian students, attended the college under the G.I. Bill. That Citadel program for veterans ended in 1960 but was resumed in 1967. Male veteran students now attend day classes with the cadets. Since 1950 women have been admitted to summer sessions, the Evening College, which was originated in 1966, and the Graduate Program, which was established in 1968.

Seven hundred Citadel alumni served in the armed forces in World War I, and 15 were killed. About 6,000 alumni were on active service in World War II. Of these, 277 died for their country. Some 1,500 were on active duty during the Korean Conflict; 450 were in combat, and 31 gave their lives. Sixty-six made the supreme sacrifice in the Vietnam War. In late 1983 one graduate was killed in Lebanon combat and another in the invasion of Grenada. Virtually all graduates on active duty have been commissioned officers.



General Information

Accreditation

The Citadel is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools, an institutional accrediting body recognized by the Council on Postsecondary Accreditation.

Programs in Civil Engineering and Electrical Engineering are accredited by the Accrediting Board for Engineering and Technology, a specialized accrediting body recognized by the Council on Postsecondary Accreditation.

Programs for the preparation of secondary teachers at the bachelor's level, for the preparation of secondary and special education teachers at the master's level, for the preparation of guidance counselors at the master's and specialist degree levels, and for the preparation of school superintendents at the specialist degree level are accredited by the National Council for Accreditation of Teacher Education, a specialized accrediting body recognized by the Council on Postsecondary Accreditation. The head of the Department of Education serves as the Director of Teacher Education.

The Department of Chemistry is accredited by the American Chemical Society, a specialized accrediting body recognized by the Council on Postsecondary Accreditation.

The Objectives of The Citadel

The objectives of The Citadel are to develop the minds and characters of its students, increase their likelihoods of success in useful pursuits, and fit them to discharge the duties of citizenship; to provide concentrations in certain professional and technical fields which will enable its graduates to compete successfully in business or the professional practice of their specialties; to ensure that its graduates are equipped in their respective fields of concentration to enter graduate, professional, or technical schools; and, through participation in an unsurpassed system of military training, to qualify for commissions in the armed forces those who desire to serve their country in that manner.

The College seeks also to provide activities, services, and facilities which contribute to the development of character, physical fitness, and moral and spiritual principles, thereby preparing students to meet the requirements of citizens and especially of leaders.

The Purpose of The Citadel's Military Environment

The Citadel is a comprehensive, liberal arts, military college. While the college is proud of the military records of its alumni and expects them to respond in national emergencies, its chief purpose is to prepare them for civil pursuits by providing a sound education reinforced by the best features of a disciplined environment. The latter teaches the value of a methodical approach to tasks, of physical and mental fitness, and of alertness and self-confidence. It teaches how to achieve and maintain morale and discipline. It instills the conviction that sacrifice is preferable to compromise with principle, and that truth, honor, and integrity are the bases of character.

Many desirable characteristics emanate from sources other than scholarship. For this reason, The Citadel adds the code of the cadet to its academic training. The symbol of this code is the proudly worn uniform, a constant reminder that alma mater expects of every son not only the objectivity of a scholar, the public spirit of an enlightened citizen, and the honor and integrity of a gentleman, but the courage and bearing of a military leader.

Annual Health Fitness Evaluation

Cadets may be required to take a health fitness test during the early part of each fall semester. Any cadet failing to meet minimum standards will be referred to an individual fitness program.

Campus Ministry

College years are exciting times of growth and challenge, when a young person's faith and religious heritage are examined in the light of a variety of new experiences and perspectives. And if the college years are sometimes marked by "crises of faith", they are also times of a firm and deepening commitment to life-long religious values. In keeping with the wholistic educational concept at The Citadel, the services of a full-time director of chaplains, who also serves as chaplain to the Corps of Cadets, are available at all times.

To meet the religious needs of the cadets, supplementary ministeries are provided on campus, and together with The Citadel cadet religious council and cadet regimental religious officer, these campus ministry programs provide a variety of religious-cultural interchanges addressing current life situations in a learning society. This is accomplished through worship services, Monday evening denominational meetings, Thursday evening para-church studies and fellowships, weekend religious retreats, ecumenical worship, and seminars on contemporary ethical issues.

Citadel Campus Ministry

Parish of Christ the Divine Teacher	Catholic
Baptist Student Union	Baptist
St. Alban's Chapel	Episcopal
Wesley Foundation	Methodist
Westminster Fellowship	Presbyterian
Lutheran Student Movement	Lutheran
Hillel Society	Jewish
Greek Orthodox Fellowship	Greek Orthodox

Bible Study and Fellowship: The Navigators, Fellowship of Christian Athletes, Officer's Christian Fellowship, and Campus Crusade for Christ.

The Summerall Chapel is designed for flexibility of utilization by major denominational groups. The inscription on the front of the chapel reads, "Remember Now Thy Creator in the Days of Thy Youth" (*Eccl. 12:I*). In addition to regularly scheduled services, the chapel is open each day from 6 a.m. until 10 p.m. for private prayer and meditation.

Citadel Chapel Choirs

The cadet chapel choirs greatly enhance the three major campus services on Sundays, and they are combined for special events such as the Christmas Candlelight program and the Baccalaureate service in May. More than 100 cadet voices are raised in song each week when the Protestant, Catholic, and Episcopal choirs gather for rehearsals and Sunday worship services.

Student Advisory Services

Academic Faculty Advisor. Each student is assigned a faculty advisor who provides counsel concerning course selections and options within particular courses of study. Though students are encouraged to visit their advisors throughout the academic year, planning sessions are designated each semester during preregistration and registration.

Tactical Officer. Each cadet company is assigned an active duty officer who is currently serving one of the ROTC detachments at The Citadel. This officer provides counsel concerning matters of cadet lifestyle and regulations and provides leadership training while visiting cadet company areas and while supervising drill periods.

Company Academic Advisor. Each cadet company is assigned a specially chosen faculty or staff member whose responsibility is the academic well-being of the company. He works closely with the tactical officer and the cadet chain of command to ensure that academic and military requirements are compatible and that cadets take advantage of academic opportunities available to them within the company.

Specialized Advisory Services

Student Counseling Center. The Student Counseling Center, housed in the Department of Psychology, provides direct professional services to students in (a) confidential personal counseling, aimed at the early detection and prevention of student mental health problems, and (b) educational and career counseling, directed toward helping students develop realistic career goals. Counseling is provided in an informal setting where students may benefit from a relationship with an experienced counselor. Students may choose to take a group approach as an alternative to individual discussions.

The Student Counseling Center also provides for the administration and interpretation of intelligence scales, personality inventories, and vocational interest inventories. The center is a Controlled Testing Center for The Psychological Corporation and administers specialized group tests such as the Miller Analogies Test (MAT).

Appointments may be made directly by the student or by referral from others such as professors, faculty advisors, chaplains, tactical officers, members of the staff, or friends.

Pastoral Counseling. Pastoral counseling is an important component in the overall design of The Citadel's advisory program. Chaplains are available to establish with students an ongoing pastoral relationship that includes dealing with life problems in the context of religious values. Realizing our varied personal limits, there are occasions when referrals will be made. However, among your chaplains, you are assured of caring, concern, and confidentiality, whatever your situation.

Drug Awareness Counseling. Assistance is available to those students who have a known, or suspected, psychological dependence upon any form of drug, including alcohol. Peer, faculty or staff referrals may be made to the campus psychologist, a campus chaplain, the Director of Student Activities, the assistant to the Dean of Undergraduate Studies, or the Assistant Commandant who will assist in obtaining proper counseling or treatment.

Educational Advisory Services.

Counseling Services for Prelaw and Premedical Students. The Citadel provides counseling and guidance to all students who have an interest in attending law or medical school after graduation. A student interested in a law career should seek advice early in his college career from the chairman of the Prelaw Committee. Students interested in medicine and related fields should seek early advice from the chairman of the Premedical Committee. Each committee is composed of faculty members from departments in academic disciplines related to these professional fields.

Services for Learning Disabled Students. Enrolled students who have experienced serious learning problems may take advantage of limited opportunities for diagnostic evaluation and specialized individual counseling. These services are provided on a cost-recovery and as available basis. Diagnostic evaluations are provided for a fee of $125.00, and special individualized counseling programs are provided for a maximum of 25 to 30 students each semester at a cost of $200.00 per student. These fees may be charged against the student's deposit in the Treasurer's Office.

Placement Services. Career planning and placement services are available to students and alumni. Services include counseling students concerning career interests, academic programs, resume techniques, and interview procedures and providing placement help for graduating students and alumni. The placement office, located in the Alumni House, arranges interviews with visiting representatives from business and industry and sponsors numerous seminars during the academic year.

The Daniel Library and Archives

The Daniel Library, constructed in 1960, embodies the best features of modern planning for efficient library use.

The main collection contains more than 700,000 books, bound periodicals and government documents, and micromedia which are accessible to students in open stacks.

The library subscribes to some 1,000 periodicals and is a partial depository for government documents. Approximately 600 new government publications are received each year. The reference collection exceeds 10,000 volumes.

The library contains 450,000 microforms, microform readers, and machines for student copying of these and other printed materials.

Department collections in the Chemistry and Civil Engineering Departments supplement the main collection. Books in all Citadel libraries are included in the library's card catalogue.

The General Mark W. Clark Archives contains some 60,000 manuscripts, 40,000 photographs, and many films, tape recordings, newspapers, newspaper clippings, and artifacts. Invaluable as an original source of documents relating to World War II and the Korean Conflict, the archives has received national attention from archival institutions and historians.

In addition to the Clark collection, papers of General Hugh P. Harris, which give excellent background material on the development of airborne forces, are in the archives. Through an exchange microfilm program with the Eisenhower Library, the resources of that library are readily available.

The library is a member of the Charleston Library Consortium, which maintains an agreement whereby Citadel students may use facilities of other colleges and universities in the area. The total library resources available to Citadel students therefore exceed 1,000,000 volumes.

Computer Center

The Academic Computer Center was established to provide students and faculty access to the latest developments in both computer hardware and software. To accomplish this, the full facilities of Computer Services Division at the University of South Carolina are available to The Citadel Computer Center through a high-speed data link. This system provides access to most computer languages and to a large library of programs and subroutines which support the areas of business administration, statistics, engineering, the sciences, social services, and mathematics. In addition, a microcomputer laboratory and classroom have been established to provide students with direct access to the latest developments in hardware and software in this rapidly growing area of technology.

The Computer Science Laboratory in the Department of Mathematics and Computer Science provides our students with direct access to a state-of-the-art mini-computer. This facility enables students to gain experience with operating systems, systems hardware, and a variety of hardware peripherals.

The Rosemary Breckenridge Galloway Writing Center

The Writing Center provides writing services for students, faculty, staff, and members of the community. Professional tutors and student assistants provide one-on-one tutoring by appointment. Tutors also offer workshops on such topics as "Punctuation and Mechanics," "Essay Test Skills," and "How to Improve Your Proofreading."

Apple IIe word processors are available for independent or supervised use. Word processing workshops for beginners and advanced users are scheduled throughout the year. Software is available for checking spelling, studying grammar and mechanics, improving typing, and preparing for the Law School Admissions Test. The Writing Center suggests that incoming cadets have typing skill. Use of the word processors and the tutoring services will help students improve their communication skill.

Greater Issues Series

The Greater Issues Series presents two or more major addresses each academic year. The series was inaugurated by General Mark Clark in 1954 with a view to enhancing the preparation of the Corps of Cadets for roles as valued members of our society. Since then these addresses have brought to The Citadel an impressive group of distinguished speakers.

Speakers have included Presidents of the United States, a reigning monarch, American and foreign dignitaries, scholars, diplomats, important military figures, business leaders, and many others. These addresses are attended by the Corps of Cadets and numerous guests of the college, and are open to the general public.

The Honor System

The honor system of the Corps of Cadets makes a unique contribution to the overall educational process at The Citadel. It is an integral part of the training received by all students, and the purpose is to inculcate a sense of honor in each Citadel graduate so that he instinctively conducts himself in an honorable manner under all circumstances.

The Honor Code states simply that a cadet does not lie, cheat, or steal, nor tolerate those who do. The code is enforced and supervised by a cadet Honor Committee composed of 21 members of the first class who are elected in the spring of their junior year by the three lower classes. The Honor Committee has a representative in each company; one of his duties is to instruct incoming freshmen in the honor system. He also interprets it during the year for the cadets in his company.

When a cadet is reported for an honor violation, the circumstances are thoroughly investigated; then, if there is a *prima facie* case established against him, he appears before an Honor Court composed of 10 members of the Honor Committee. Cadet counsel is provided, and cross-examination is allowed. Conviction by the Honor Court requires a unanimous secret vote of "guilty." If a cadet is found guilty by the Honor Court, he is separated from the Corps of Cadets.

The Honor Committee is responsible directly to the president of the college. A faculty advisor assists the Honor Committee. This officer provides counsel and acts in an advisory capacity at each Honor Court trial.

While not subject to the jurisdiction of the cadet Honor Committee, non-cadets (graduate, undergraduate, and summer school students) are required to abide by the Honor Code. Accusations of honor violations concerning non-cadet and summer school students are reported to the dean of undergraduate studies and are handled by a board of faculty officers in a fashion similar to the cadet Honor Court. Conviction entails dismissal from the college.

Requirements for Admission

The Citadel gives equal consideration to all applicants who meet the personal and educational requirements for admission. There is no discrimination because of race, creed, or color. No single factor determines the acceptance of an applicant. The Citadel seeks to enroll well-rounded, mature students whose motivation and educational achievements indicate that they are prepared to do college level work with a reasonable probability of success. Therefore, admissions decisions are based on an overall evaluation of the following:

a. *High School Record* (courses, grades, class standing). The high school record provides insight into an applicant's motivation, study habits, and scope of interest. Particular attention is given to grades earned in English, mathematics, science, history, and foreign languages.

b. *College Entrance Examination Board Test Scores.* Considerable emphasis is placed on an applicant's test scores on the College Entrance Examination Board's Scholastic Aptitude Test and Achievement Tests. Although test scores represent only one factor in the determination of an applicant's acceptability, they tend to indicate his educational development with respect to his contemporaries; therefore, they permit a reasonable evaluation of actual preparedness and potential to do college level work.

c. *Recommendations.* The personal evaluation of an applicant by a high school official, normally the principal or the guidance counselor, must include a positive statement that the applicant is prepared, academically and emotionally, to enter college. This recommendation is given considerable weight in the acceptance decision because it represents judgements on ability and maturity which are derived from actual experience with, and observation of, the applicant during his most formative years. The recommendations of an applicant's personal references augment and reinforce the high school official's evaluation and are indispensable. They provide information relative to the applicant's background, personal characteristics, and reputation. Additional judgenents concerning stability and readiness to enter college are also rovided.

In general, The Citadel seeks to determine acceptability through a horough evaluation of each applicant's character, maturity, motivation, eadiness for college, amenability to a regimented life style, emotional tability, and potential to contribute to cadet life. Where any of these ictors are in question, the college may obtain additional information by neans of interviews with the applicant, his parents, or members of his ommunity. If it is deemed necessary, The Citadel may request that the pplicant present a written report on such subjects as his goals in life, his easons for choosing The Citadel, or his reasons for choosing a particular najor field of study.

Admission Procedure

Formal application for admission must be made by the applicant. An pplication form should be requested from the Office of Admissions, The itadel, Charleston, South Carolina 29409. The Citadel admits freshmen ito the South Carolina Corps of Cadets only in the fall semester of each ear.

A non-refundable application fee of $15 must accompany each applica- on. Applications for admission should be submitted early in the rospective cadet's senior year in high school. In addition, the applicant hould make early arrangements to take the SAT or ACT test and have st scores sent to The Citadel. He is also responsible for having his high chool transcript sent directly from his high school to The Citadel Office f Admission.

The Citadel will advise the applicant of subsequent procedural actions s they are necessary.

A reservation fee of $100 (payable within 15 days after notification of cceptance) is required of all new cadets accepted for enrollment. ayment of this reservation fee will ensure a place in the Corps of Cadets nd will be applied toward the first installment of regular college fees; it not refundable to those students who cancel their reservations after une 1.

Each applicant must undergo a thorough physical examination, and cceptance is contingent upon the results which must be received no later han 15 June. Only The Citadel's form may be used to report the results f this examination. This form also shows the immunizations required by he Citadel.

The Department of Physical Education at The Citadel has developed a

Health Fitness Test which is designed to ensure that each incoming cade is physically prepared to take full advantage of the Fourth Clas Orientation Program. The results of taking this test should be reported t the Department of Physical Education on the forms provided by th admissions officer at the time of notification of acceptance.

Personal Requirements

Applicants to the South Carolina Corps of Cadets must be male, a least five feet in height, and physically qualified for military training a determined by the college surgeon. Should an accident, injury, or seriou illness in any way change the physical status of the applicant after hi acceptance but prior to arrival on campus, the college surgeon mu immediately be informed. Any physical impairment could result i cancellation or postponement of admission. In addition, applicants mu meet the following personal requirements:

a. Applicants must be at least 16 and less than 21 years of age at th time of entrance to The Citadel.

b. Applicants must be unmarried. (No married person will b admitted as a cadet. If a cadet marries, he will be discharged immediat ly.)

c. Applicants must not have a record of conviction of a crimin offense showing poor moral character.

d. Applicants must provide evidence from his school authorities an personal references that he is of good moral character and possesses th potential and the personality to conform to the ethical standards and th strict regimentation of cadet life.

Educational Requirements

An applicant for admission to The Citadel must be a graduate of a accredited high school or have satisfactorily completed the Gener Education Development (GED) examination. By this, the basic requir ments for admission to the college comply with standards prescribed b the Southern Association of Colleges and Schools.

Each applicant is expected to have studied several subjects prior t admission. Those subjects which are required are as follows:

a. Each applicant must have four units of English.

b. Each applicant must have three units of mathematics, two of whic must be algebra I and II. (For applicants who plan to major i mathematics, computer science, chemistry, physics, or engineering, th third unit must be plane geometry. Applicants who are planning t pursue one of these majors and who have not completed at least one-ha unit of trigonometry will be required to complete 30-119 with a grade of C or higher prior to enrolling in calculus.)

c. Each applicant must have one unit of history.

In 1988 the entering freshmen class must have in addition to the above the following courses:

AREA	**UNITS**	
Laboratory Science	2	At least one unit each of two laboratory sciences chosen from biology, chemistry, or physics; a third unit of a laboratory science is strongly recommended.
Foreign Language	2	Two units of the same foreign language.
Economics	½	
Government	½	
Additional Social Studies	1	
Physical Education or ROTC	1	
Other	1	One unit of advanced mathematics or computer science or a combination of these; or one unit of world history, world geography, or western civilization.

An applicant desiring a B.S. degree in any of the fields of chemistry, computer science, engineering, mathematics, or physics must begin mathematics at The Citadel with 30-131 (Analytic Geometry and Calculus I). As is stated above, it is strongly recommended that the applicants background include four units of high school mathematics with at least one-half unit of trigonometry. Admission to 30-131 is permitted as follows:

a. The student may earn a sufficiently high score on the College Entrance Examination Board's Mathematics Achievement Test, Level II. (This test is designed to assess the student's knowledge of algebra, trigonometry, and function notation.) The test score, together with the student's background in mathematics, is subject to review by the Department of Mathematics and Computer Science.

b. The student may complete 30-119 (College Algebra and Trigonometry) at The Citadel with a grade of C or better. Each student whose planned major requires calculus (30-131) will be tested by the

Department of Mathematics and Computer Science during the first week of classes. Those students whose backgrounds do not include trigonometry will, without exception, be placed in 30-119. Other students whose preparation in algebra and/or trigonometry is determined to be inadequate will also be required to complete this course.

c. The student may receive the approval of the head of the Department of Mathematics and Computer Science. In all cases final determination of qualification rests with the head of the Department of Mathematics and Computer Science.

Prior to entering The Citadel as a freshman, each applicant should take steps to address any perceived weaknesses in preparation in English or mathematics. The Citadel normally offers both credit and non-credit courses in these areas during each summer. Because of the widespread use of micro-computers on campus, typing skills are recommended for incoming students.

Entrance Examinations

All applicants for admission to The Citadel are required to take the College Entrance Examination Board Scholastic Aptitude Test (SAT), or the American College Testing (ACT) Academic Admissions Test. The Mathematics Achievement Test, Level II, is *strongly recommended* for applicants planning to major in engineering, chemistry, computer science, mathematics, or physics.

If an applicant lists The Citadel on his College Entrance Examination Board application as one of the colleges in which he is interested, his test scores will be sent to The Citadel approximately 30 days after the tests are taken. An applicant should complete the required entrance examinations no later than February.

Students from a foreign country whose native language is not English must receive satisfactory scores on the Test of English as Foreign Language (TOEFL). The TOEFL is prepared and administered by the Educational Testing Service of the College Entrance Examination Board and must be taken no later than March 1 of the spring preceding admission.

In order to apply for these tests, the applicant must write directly to College Entrance Examination Board, ATP, Box 592, Princeton, N.J 08540. These tests are normally offered at locations throughout the United States and in some foreign countries four times each year, usually in September, November, February, and May. An application to take these tests must be submitted to the College Entrance Examination Board at least one month prior to the date of desired tests.

Veteran Student Admissions

Certified veterans are, within the limits established by the policies of the college, permitted to participate in the day programs at The Citadel. Veteran applicants must meet the academic standards outlined under the Educational Requirements and Entrance Examination section of this catalogue or provide evidence of previous satisfactory college work. A Certificate of Eligibility from the Veterans Administration must be filed with the Veterans' Affairs Office and a DD Form 214 with the Admissions Office.

Since veteran applicants are civilians, they are not subject to RPE and ROTC requirements, nor are they permitted to attend ROTC classes.

In order to be accepted as a veteran student at The Citadel, the following actions must be completed:

a. submit a complete application with a non-refundable $15 application fee;

b. request all high schools and colleges attended to send official transcripts (If high school was completed by taking the GED test, submit a copy of the equivalency certificate.);

c. request that the College Entrance Examination Board send to The Citadel, Office of Admission, your latest SAT scores (If you have not taken the SAT, please refer to the Entrance Examination section of this catalogue.);

d. provide The Citadel Veterans Office with a certificate of eligibility which can be obtained from the Veterans' Administration office. *(Eligibility for such a certificate is an absolute requirement for admission.)*

Transfer Procedures and Transferable Credit

The Citadel accepts three types of transfer credit. Credit may be transferred from another accredited college, through the CEEB Advanced Placement Program, or through the CLEP examination program.

Transferring Credits from Another Accredited College — Students who are entering The Citadel for the first time and who have attended another accredited college(s) must have an official transcript(s) sent directly from the college(s) to The Citadel Office of Admission. *It is the responsibility of the entering student to have transcripts sent to The Citadel.* Only courses which are comparable to specific courses offered by The Citadel and in which grades of C or better have been earned will be considered for transfer. *Course work taken at another college and accepted for transfer by The Citadel, need not be applicable to a student's major.* Courses transferred from another college will be noted on the student's

Citadel transcript but will not be reflected in the student's Grade Point Ratio at The Citadel. All transcripts sent from another college to The Citadel become the property of The Citadel and can not be issued to the student or a third party.

Students who wish to take transferable course work while away from the college *must* obtain official prior approval through the Office of the Registrar.

CEEB Advanced Placement Program — The Citadel awards advanced placement credit for applicants according to the following guidelines. (Applicants desiring Advanced Placement credit must have the official score report form sent directly to The Citadel from CEEB.)

ART (History)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Art (History) will be awarded credit for 54-206.
BIOLOGY	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Biology will be awarded credit for 47-101 and 47-102.
CHEMISTRY	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in chemistry will be awarded credit for one of the following chemistry sequences: 40-101-111 and 40-102-112 or 40-103-113 and 40-104-114.
COMPUTER SCIENCE	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Computer Science will be awarded credit for 36-201.
ENGLISH (Language and Composition)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in English (Language and Composition) will be awarded credit for 80-101.
ENGLISH (Literature and Composition)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in English (Literature and Composition) will be awarded credit for 80-102.
FRENCH (Language)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in French (Language) will be awarded credit for 94-101 and 94-102.

FRENCH (Literature)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in French Literature will be awarded credit for 94-201 and 94-202.
GERMAN (Language)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in German (Language) will be awarded credit for 93-101 and 93-102.
HISTORY (American)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in History (American) will be awarded credit for 70-101 and 70-102.
HISTORY (European)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in History (European) be awarded credit for 70-231 and 70-232.
LATIN (Vergil)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination Latin (Vergil) will be awarded credit for 91-101 or 91-102.
LATIN (Catullus, Horace)	Applicants scoring 3, 4, or 5 on Latin (Catullus, Horace) will be awarded credit for 91-101 or 91-102.
MATHEMATICS AB	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Mathematics AB will be awarded credit for 30-131.
MATHEMATICS BC	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Mathematics BC will be awarded credit for 30-131 and 30-132.
MUSIC (Listening and Literature)	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Music (Listening and Literature) will be awarded credit for 54-206.
MUSIC THEORY	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Music Theory will be awarded credit for 54-209.
PHYSICS B	Applicants scoring 3, 4, or 5 on the Advanced Placement examination in Physics B will be awarded credit for 26-203-253 and 26-204-254 or 26-205-255 and 26-206-256, as appropriate.
PHYSICS C: Mechanics	Applicants with a calculus background (e.g. a score of 3, 4, or 5 on the Mathematics AB or

	Mathematics BC examination) and scoring 3 4, or 5 on the Advanced Placement examination in Physics C: Mechanics will be awarde credit for 26-210-260.
PHYSICS C: Electricity Magnetism	Applicants scoring 3, 4, or 5 on the Advance Placement examination in Physics C: Electricity and Magnetism will be awarded credi for 26-211-261, if they have a calculus background (e.g. a score of 3, 4, or 5 on th Mathematics AB or Mathematics BC examination) and have a score of 3 or higher on th Physics C: Mechanics examination.
POLITICAL SCIENCE (Comparative Government)	Applicants scoring 3, 4, or 5 on the Advance Placement examination in Political Scienc (Comparative Government) will be awarde credit for 60-232.
POLITICAL SCIENCE (American Government)	Applicants scoring 3, 4, or 5 on the Advance Placement examination in Political Scienc (American Government) will be awarded credi for 60-102.
SPANISH (Language)	Applicants scoring 3, 4, or 5 on the Advance Placement examination in Spanish Languag will be awarded credit for 96-101 and 96-102.
SPANISH (Literature)	Applicants scoring 3, 4, or 5 on the Advance Placement examination in Spanish (Literature will be awarded credit for 96-201 and 96-202.

College Level Examination Program (CLEP) — The Citadel also award credit through CLEP Subject Examinations as provided by the Counci on College-Level Examinations of the College Entrance Examinatio Board. The following conditions must be met:

1. The score must be equal to or above the mean score achieved by students on the national norm sample who earned a grade of "C" in a regular college course in the subject.
2. The amount of credit to be awarded will be determined by the scope of material measured, i.e., one or two semesters.
3. Credit will be awarded only for those subject examinations for which there is an equivalent course at The Citadel.

4. No student will be permitted to acquire more than 30 semester credit hours through CLEP Subject Examinations.
5. Students will not be granted credit through CLEP for any course previously taken at The Citadel, whether passed or failed, either for credit or audit.

Advanced Language Placement — Advanced language placement, other than through the CLEP or AP Program described above, may be granted upon the recommendation of the head of the Department of Modern Languages. Normally, a a student will be allowed to bypass no more than 6 hours of the 12 hour language requirement. No credit is awarded for the bypassed course or courses; electives must be taken to replace the bypassed courses.

The Department of Modern Languages is responsible for the proper placement of students in all language courses. For further information, please refer to the modern languages section of this catalogue.

Qualified students who have had at least three years of a foreign language in high school and elect to continue in that language at The Citadel will enroll in intermediate (201-202) or higher level courses. Such students will be allowed to enroll in the basic level courses (101-102) only upon the recommendation of the department head. Completion of 6 hours of intermediate or higher level courses will satisfy The Citadel's two-year foreign language requirement.

In regard to the modern language requirement, a foreign national or a student whose native language is not English will confer with the department head for appropriate placement. Such students will not be allowed to take for credit courses in their primary language below the junior level.

In all cases final placement will be accomplished after consultations during the first week of classes.

Initial Acceptance and Withdrawals

New cadets are admitted to the Corps of Cadets only in the first semester of the school year but may commence their academic work in the preceding summer. Veteran students may be admitted at the beginning of each semester or either summer term.

If a cadet or veteran student finds it necessary to withdraw from The Citadel during the college year or does not wish to return to The Citadel in August following any college year, a written request for an honorable discharge must be sent to the registrar.

GRAHAM

Academic Policies

Any exceptions to policies stated in this catalogue, purported to have been made verbally to a student by an official of the college, are null or void unless documented with a signed statement from the college official.

Grades

Only letter grades are given to evaluate a student's progress. The following definitions of letter grades are applicable:

1. "A" represents superior attainment on the part of the student.
2. "B" represents work that is clearly above the average, but not superior.
3. "C" represents average attainment of the basic standards set for the course.
4. "D" represents a minimum attainment of the basic standards.
5. "F" represents failure.
6. "W" represents withdrawal from a course prior to the official deadline which is indicated in the college calendar and is no earlier than the Wednesday following the mid-term grading period. Beyond that point, the student will receive the grade of F should he fail to complete the course or complete it unsuccessfully. Under extenuating circumstances, the grade of W may be awarded after the established deadline to withdraw from a course. Such an action is taken only upon the recommendation of the instructor and requires the concurrence of the dean of undergraduate studies. Supporting evidence is the responsibility of the student and must be submitted in writing to the dean of undergraduate studies.
7. The notation of "I" (for Incomplete) is used in those rare instances when course requirements have been very nearly met but for authorized reasons (illness, injury, family emergency, etc.) cannot be completed during the current semester. To be eligible for the grade of I, the student's work must be satisfactory at the time he is forced to terminate his participation in the course. Unsatisfactory work this late in a course should result in a failing grade. The grade of I must be cleared during the next semester in residence or

> within one year, whichever comes first, or the I becomes an F. The summer session will not be considered a semester in this case. A student may not officially enroll in a course in which he currently has an I. An extension of time due to extenuating circumstances may be authorized by the department head and the dean of undergraduate studies upon the recommendation of the instructor. The removal of the incomplete is the responsibility of the student.

Should a student fail to complete a semester or summer session for any reason, the grade in each course in which the student is then enrolled shall be F, I, or W as determined by the individual faculty member in consultation with the dean of undergraduate studies.

No numerical symbol, bracket, or percentage is assigned the equivalent of any grade. Arbitrary distribution of grades according to some formula or curve is not permitted. However, by means of departmental supervision and consultation between instructors, every effort is made to obtain consistent grading procedures within the department.

Students are expected to use proper grammar in all their course work, whether written or oral. Proper usage is expected at the college-level and is required by all professors.

Any changes of grade deemed necessary by the faculty member concerned must be made within 30 days after the beginning of the next semester following the recording of the grade. The summer session will not be considered a semester in this case. After grades in a course have been submitted to the records office of the registrar, every request for a change of grade must be approved by the head of the academic department involved and the dean of undergraduate studies.

Any student may enroll in any course for which he meets prerequisite and co-requisite requirements. If a course is repeated, the last grade of record is used to determine whether course requirements for graduation have been met.

Grade reports are provided at the end of each semester. Mid-term progress reports are made available to show the status of the student's academic work.

Grade Point Ratio Computation

For purposes of ascertaining grade-point ratio to determine eligibility for graduation, grades are weighted as follows:

Grade	Grade Points Per Semester Hour
A	4
B	3

C	2
D	1
F, I, W	0

The grade-point ratio for any semester is determined by dividing the total number of quality points earned by the total number of credit hours attempted, including the hours for which the following grades are received: A, B, C, D, F.

The cumulative grade-point ratio on which graduation, probation, and academic discharge are based is determined by dividing the number of quality points earned at The Citadel by the number of credit hours of record at The Citadel. Number of credit hours of record for this purpose includes *all credit hours attempted* at The Citadel for which the following grades were received: A, B, C, D, or F. The number of quality points earned includes *all* quality points associated with credit hours of record at The Citadel.

As a member of the Charleston Higher Education Consortium, The Citadel is party to the cross-registration policies for student interchange among the five local post-secondary institutions. In addition to The Citadel, the Consortium member colleges are: the Baptist College of Charleston, the College of Charleston, the Medical University of South Carolina, and Trident Technical College. Under the student interchange agreement and with the approval of the academic deans concerned, students in good standing at The Citadel may enroll in courses offered at any of the Consortium institutions. Cadets may participate in the cross-registration program with Consortium institutions only under exceptional circumstances and with the approval of the dean of undergraduate studies.

In computing a semester or cumulative GPR, quality points and hours associated with transfer credits are not considered. Courses *properly approved* in advance to be taken at another institution in the Charleston Higher Education Consortium will be included on the student's transcript as courses taken in residence at The Citadel, and quality points and hours from such courses will be included in GPR computations.

Transfer Credits

Entering students who desire to transfer credits from other accredited colleges must have official transcripts sent to the records office of The Citadel and must provide catalogue descriptions of the courses involved. The head of The Citadel academic department concerned, will then evaluate the courses to determine those for which transfer credit will be allowed. Only courses in which grades of "C" or better have been earned will be considered for transfer credit.

Students who expect to continue enrollment at The Citadel or to return after withdrawing may, with the approval of their deparment heads, take courses at other accredited institutions for transfer to The Citadel. To be eligible for transfer, each course must be certified by the department head concerned as acceptable to be taken away from The Citadel and as equivalent to a course at The Citadel. The semester hours transferred will not be greater than for the equivalent Citadel course, and courses previously passed at The Citadel will not be accepted for transfer.

All transfer credits are provisional. If a department determines within four weeks after classes begin that the student is not prepared to take a course for which the course transferred is a prerequisite, the allowance of credit is withdrawn, and the student must take the prerequisite course at The Citadel.

To be eligible for graduation, all students, including transfer students from other colleges, are required to earn at The Citadel a minimum of one-half the semester hours prescribed for the major course of study.

In addition, to ensure the academic work in the major is current, a student seeking the bachelor's degree shall receive at least 30 of the final 37 credit hours at The Citadel within a period of five years of the date of graduation. Credit gained through AP or CLEP may not be counted among these 30 hours. Any exceptions to this rule must be approved by the appropriate department head and the dean of undergraduate studies.

Catalogue of Record

The catalogue bearing the number of the academic year in which a student enters The Citadel will be his catalogue of record for matters of academic policy.

When a student is readmitted after an absence of at least three academic semesters (summer sessions will not be considered as semesters for this purpose), the catalogue bearing the number of the academic year in which the student is readmitted will be his catalogue of record for matters of academic policy and graduation requirements.

Degrees

The degree of Bachelor of Arts is conferred upon satisfactory completion of the Chemistry, English, History, Mathematics, Modern Languages, Political Science, or Psychology program of study. The Bachelor of Science is conferred upon satisfactory completion of the

Biology, Chemistry, Computer Science, Education, Mathematics, Physical Education, or Physics program.

The degree of Bachelor of Science in Business Administration is awarded to students who complete satisfactorily the program in Business Administration.

Graduates in Civil Engineering receive the degree of Bachelor of Science in Civil Engineering. Graduates in Electrical Engineering receive the degree of Bachelor of Science in Electrical Engineering.

Requirements for Graduation

For graduation, a student must complete one of the departmental major courses of study stated in the catalogue bearing the number of the academic year in which he entered and must achieve a minimum grade-point ratio of 2.00 based on all credit hours of record and all quality points earned at The Citadel. For students majoring in Education or the teaching track of Physical Education, an overall grade point ratio of 2.5 is required. In addition, each student, regardless of major, must achieve a minimum grade point ratio of 2.00 based on all credit hours of record and all quality points earned in the major department.

To ensure that academic work in the major is current, a student seeking the bachelor's degree shall receive at least 30 of the final 37 semester hours at The Citadel within a period of five years of the date of graduation. Credits gained through AP or CLEP may not be counted among these final 37 hours. Any exceptions to this rule must be approved by the appropriate department head and the dean of undergraduate studies.

Candidates for degrees who have attained an overall grade-point ratio and major course of study grade point ratio of at least 2.00 and who do not complete all requirements for graduation when scheduled may take not more than two approved courses, totaling no more than 7 semester hours, at another institution for transfer to The Citadel. Prior approval of these courses by the department head concerned is mandatory.

A curriculum or graduation requirement, if altered, is not normally made retroactive unless the alteration is to the student's advantage and can be accommodated within the span of years normally required for graduation. Should a requirement be made retroactive, ample warning will be given in writing.

In addition to the formal academic credits required for graduation, the candidate must have satisfied all disciplinary requirements. Recommendations for graduation are made by the Academic Board to the Board of Visitors, which in turn awards the degrees.

Combining Courses

Courses may be combined to meet *general elective credit* requirements under the following circumstances:

1. Courses to be combined (a lecture course, or a lecture and its associated laboratory) must each carry at least 3 hours credit.
2. The courses to be combined must all be offered by the same department.
3. Approval of the head of the department in which the student is majoring and the dean of undergraduate studies must be obtained.

Course Substitutions

The requirements for completion of an academic major are shown in this catalogue as a *minimum number of courses* and the associated credit hours. Each course has been carefully selected by the academic department offering the major in question and makes a specific contribution to the overall degree program. Course substitutions are, therefore, made only when justified by truly extenuating circumstances. Such circumstances must be presented in writing by the student, and the requested substitution must have the support of the faculty advisor, the department head, and the dean of undergraduate studies.

ROTC Graduation Requirements

A cadet must be enrolled in and successfully complete ROTC every semester during which he is enrolled at The Citadel or until he has completed eight semesters. Voluntary withdrawal from or failure to register for ROTC courses is not permitted. If there are extenuating circumstances beyond the cadet's control, a cadet may withdraw or not register for ROTC provided he has the recommendation of the commanding officer of the ROTC unit involved and the approval of his academic faculty advisor and the dean of undergraduate studies. He must, however, make up the ROTC courses missed in order to graduate. Students who must remain at The Citadel beyond the normal four years and who have ROTC requirements to complete will be retained as cadets and will not normally be designated as day students.

Non-cadets are permitted to enroll in ROTC classes only under the following conditions:

1. The individual must be on orders as a participant in a commissioning program for one of the armed services.

2. The individual must be accepted as a degree seeking student in the day program of The Citadel.
3. The individual must be enrolled as a full-time student in courses in the day program of The Citadel.
4. The individual must be provided leadership laboratory experiences outside the context of the Corps of Cadets.
5. ROTC classes will fulfill no degree requirements in non-cadet degree programs. The Citadel will not accept training experiences as equivalent to *basic* ROTC coursework for listing on the academic transcript.
6. The individual must be in uniform while on campus.

ROTC classes may not be used to satisfy elective requirements in any ourse of study.

Course Load Requirements

A full-time student must be enrolled throughout each semester in ourse work with credits totaling at least 12 hours. A cadet *must* be a ull-time student. Any cadet who drops below the 12 credit hour inimum at any time during a semester *will* be discharged immediately, nless there are extenuating circumstances.

Course Overload

Outlines for the various academic majors are detailed in the courses of udy section of this catalogue. Course selections for each semester have een carefully determined by each individual academic department on the asis of sequence and content. Following a particular course of study will nsure normal progress toward completion of minimum degree requirements within eight semesters.

For a variety of reasons, a student may find it desirable to take an dditional, or overload, course during a particular semester. An overload ourse is defined to be any course taken in addition to those prescribed in he student's course of study for the semester in question. Such overloads re restricted as follows:

1. No more than one overload course may be taken during a particular semester.
2. During the previous semester (summer sessions will not serve as semesters), the student must have:
    a. earned a GPR of at least 2.00.
    b. failed no courses.

Since this is an action which should not be taken lightly, the studer must discuss all course overloads with his faculty advisor. Should eithe of the two conditions stated above not be met, the student must execut an appropriate form which can be obtained from the office of the dean c undergraduate studies. This form requires the approval of both th faculty advisor and the head of the department in which the student majoring. Questions which cannot be resolved at the department level wi be referred to the dean of undergraduate studies. Unless there ar extenuating circumstances, failure to obtain proper authorization for course overload will result in the student's being required to withdra from the additional course.

Completed forms will be retained in the office of the department head.

Pass-Fail and Audit Status

Junior and seniors with a cumulative grade-point ratio of 2.0 or highe may elect courses on a Pass-Fail option, but no more than one may b elected each term or a total of four for graduation. A student may tak the Pass-Fail option only on courses which meet general electiv requirements. The student may not change his decision to take the cours on the pass-fail basis or for a letter grade after the first two weeks of th term. Courses completed on the pass-fail option carry graduation cred but no quality points and are not included in GPR computations.

Instructors report grades as usual, A through F. The records offic translates grades as follows:

1. A grade of A through C as S (satisfactory, pass — for credit)
2. A grade of D or F as U (unsatisfactory, fail — no credit)

Students who are taking a course under the Pass-Fail option and wh wish to be considered for Dean's List or Gold Star honors must mee these criteria:

1. The appropriate GPR requirement must be met on 12 or mor semester hours beyond the Pass-Fail course.
2. The Pass-Fail course must be completed satisfactorily.

In determining the GPR for graduation with honors and for th position of First Honor Graduate, courses taken under the Pass-Fa option will be treated as transfer courses.

Any student who is eligible to enroll in a particular course may, wi the approval of the instructor and the registrar, audit that course for r credit. There will be no additional charge if the student is enrolled f credit in courses totaling 12 or more hours. For students taking fewer han 12 credit hours, registration fees and 50 percent of the tuition charge for the course will be assessed.

The student may not change his decision to take the course on the audit basis rather than for credit after the first two weeks of the term. Grades will not be given for courses taken in audit status.

Class Attendance Policy

The cornerstone of undergraduate education is communication between he teacher and the learner. At The Citadel, class attendance is expected, and students are expected to be punctual. From reveille at 0645 until taps at 2400, the cadet's day is quite full. However, during these periods Monday through Friday, less than 20% of the time is designated for classes and laboratories, and these experiences are not to be missed. Therefore, except as indicated below, class attendance is *mandatory*.

Although class attendance is of higher priority than other normal activities, it is acknowledged that cadets must miss classes for certain authorized reasons — athletic events and connected travel, special events and ceremonies, daily and special guard duties, and the like. We also ealize that certain medical and personal emergencies will require the missing of scheduled classes. Should it be necessary to miss a class for any reason, the student will, unless circumstances preclude it, notify his professor in advance and will be responsible for any material covered in his absence. Assigned tests are *mandatory*. Unless authorized to the contrary by the professor, such tests take precedence over *all* other duties or activities.

Should a cadet miss a class or a laboratory for unauthorized reasons, he will be required to serve five (5) confinements and will be assessed five 5) demerits for each such absence.

Should a non-cadet have to miss a class because of sickness or other circumstances beyond his control, the professor is responsible for designating the absence as authorized or unauthorized. Any questions, by tudents or faculty, concerning such designations will be referred, in writing, to the dean of undergraduate studies.

For any student, absences, whether authorized or unauthorized, in excess of 20% of the meetings of a particular course can, at the discretion of the professor, result in a grade of F in that course. In such cases, the attendance record kept by the professor is official.

As soon as the instructor has determined that a grade of F for excessive absences is warranted, the dean of undergraduate studies is notified, and the student is dropped from the course in question. If as result of this action the total hours carried for a full-time student drop below 12 credit hours, the student is subject to immediate discharge fron the college unless there are extremely extenuating circumstances. Sucl circumstances must be presented in writing to the dean of undergraduat studies.

Academic Warning List

The Academic Warning List is a first warning to students that thei academic progress is inadequate, and for cadets this status carries reduce privileges and required participation in the Supplemental Study Period Program. Students failing more than *four* semester hours at the end of semester will be placed on the Academic Warning List. They are remove from this list at the end of the next grading period, end of semester c mid-term, if they are failing four or fewer hours. Neither summer schoc credits nor transfer credits affect the Academic Warning List.

Students failing more than four credit hours in one or more courses a mid-semester will not be placed on the Academic Warning List, but may at the discretion of the dean of undergraduate studies, be required tc participate in the Supplemental Study Periods Program.

Academic Criteria for Continuance

In order to be eligible to continue at The Citadel, a student must mee minimum standards regarding hours earned at The Citadel or properl transferred from another accredited institution and cumulative grad point ratio maintained. These criteria are assessed at the end of each two semester period after admission or readmission. Although the institutio will notify the student if he is deficient in either or both areas, it is th responsibility of the student to ensure that these criteria are met. Student who are at the end of a spring semester eligible to continue into the nex academic year cannot become ineligible as a result of course work take in summer school.

A full-time student (one carrying at least 12 credit hours each semester must pass at least 24 semester hours in each 12-month period afte admission or readmission. A part-time student (one carrying less than 1 credit hours each semester), must, in that same period, pass at least 5 percent of the hours attempted.

Each student must maintain a minimum cumulative grade point rati as prescribed in the table below. This grade point ratio is calculated a described earlier in this section.

The column "Credit Hours of Record" includes all credit hours ecorded on the student's transcript, whether taken at The Citadel or a onsortium institution or transferred from another college.

redit Hours of Record	Grade-Point Ratio for Continuance (on probation)	Grade-Point Ratio for Continuance (without probation)
0-39	1.00	1.10
40-69	1.25	1.40
70-99	1.50	1.70
00 & above	1.75	1.90

This table traces the academic progress a student must make toward ttaining the minimum acceptable overall grade point ratio of 2.00 as his redit hours of record approach that total which is required in the course f study of his selected major.

Academic Discharge

A student who fails to meet either or both of the academic criteria for ontinuance will be discharged for academic deficiencies. Although cademic probation is assessed each semester, academic assessment for he purpose of academic discharge is conducted at the end of each two emester period, and the associated summer sessions, after the student is dmitted or readmitted. Under the academic discharge policy, students nay be discharged for academic deficiencies in January or in August of ach year.

Students who voluntarily withdraw at other times or who are ischarged for other reasons will have the academic status of their ischarges assessed by the Readmissions Advisory Committee upon pplication for readmission.

Minimum grade-point ratios for the various categories are as shown bove; however, the minimum GPR required will not be raised as a result f summer school work. That is, students moving from one category to he next higher category as a result of hours of record acquired in ummer school at The Citadel or elsewhere will be required to meet the PR minimum of the lower category for continuance in the following fall erm. The decision as to whether this continuance will be with or without robation is made by the dean of undergraduate studies.

A student will not be subject to academic discharge rules until the end f his second semester at The Citadel. For this purpose, the two summer essions will not be considered as a semester.

A student who is discharged for academic reasons for the first time may apply for readmission after being out of school for one semester. (Summer school does not constitute a semester in this instance.) If approved by the Readmissions Advisory Committee, he will be readmitted on a probationary status. Probationary status requires that he must, by the next assessment of his academic status, have attained the minimum ratio of quality points to hours attempted for his category based on hours of record. Additional probationary conditions may be imposed by the Readmissions Advisory Committee or the dean of undergraduate studies. Failure to meet probationary conditions of readmission will again subject the student to discharge for academic deficiency. The probationary period for part-time students will be determined by the dean of undergraduate studies.

Academic Probation

A student is placed on academic probation for any semester when his cumulative grade point ratio based on courses taken at The Citadel fails to meet the requirements for continuance without probation as outlined in the "Academic Criteria for Continuance" table.

A student will be removed from academic probation after the semester his cumulative grade point ratio meets the requirements of the table. Satisfactory progress for a part-time student will be determined by the dean of undergraduate studies.

Several academic departments have established criteria which must be met by their majors. Students not meeting these cirteria are placed on probation within that department. This status is not related to and does not affect the academic probation which is awarded by the college. Where departmental probation has been established, a full explanation is provided within the section of this catalogue which describes that major.

Eligibility for cadet privileges normally accorded academically proficient cadets will be substantially reduced to the extent determined by the dean of undergraduate studies and the commandant of cadets for those on academic probation. In addition, cadets on academic probation are required to participate in the Supplemental Study Periods Program.

Supplemental Study Periods

Supplemental study periods (SSP's) are established to provide *opportunities for academic improvement* for three groups of cadets: (a) those on current Academic Probation or Academic Warning Lists; (b) other freshmen and sophomores whose average GPR was less than 2.0 on the most recent grade report (mid-term or end-of-semester); and (c) other cadets as designated by the dean of undergraduate studies. Cadets in hese categories will be required to log four extra hours of study time ach weekend by choosing any *two* of these two-hour blocks for their xtra study time.

Friday	*Saturday*	*Sunday*
900-2100	1300-1500	1300-1500
	1600-1800	1600-1800
	1900-2100	

During the time blocks which they themselves have selected, cadets will be in their rooms studying. Individual companies (i.e., the company academic officers) shall have the authority to make minor modifications o this general policy to suit particular circumstances which may arise within their companies. If the company academic officer feels that a participant from category (b) in the SSP program has furnished sufficient evidence of academic improvement after a few weeks of participation, hat student may be excused from the SSP program before the next grade reports are issued. There are however limits to the flexibility of hese guidelines. In no case shall a cadet be required to log more than four extra study hours, and in no case shall the assignment to SSP cancel weekend or overnight leave privileges to which the student might otherwise be entitled.

The responsibility for supervision of this program within each company will be determined by that company's academic leadership. For instance, he officers, the first sergeant, and the academic sergeant may rotate supervisory responsibilities over the weekend. Supervisory duty consists of maintaining a sign-in/sign-out sheet with the roster of cadets assigned to SSP each weekend and being available to help SSP participants find assistance with their academic work should they desire it. In no case shall the weekend duty NCO be delegated this additional responsibility.

Readmission Policy

A student wishing to return to the day program of The Citadel after he has been discharged must file an application for readmission with the registrar who will process the application upon receipt and submit all information to the chairman of the Readmissions Advisory Committee. The deadline for receipt of an application for readmission for the spring term is November 15 and for the fall term is July 15. Applications postmarked after these dates will not be processed.

Students who are discharged due to academic deficiencies will b ineligible to apply for readmission consideration until the lapse of on semester of the regular school year. (Neither of the two summer session is considered a semester in this instance.)

A student discharged a second time for academic reasons will not b considered for readmission.

Academic Promotions and Classifications

Students meeting the minimum grade point ratio for continuance will be promoted to successive classes at the end of each semester provided they are not more than eight credit hours behind in their major course of study.

Cadets are arranged in four distinct classes, corresponding with the four years of study. Cadets pursuing the first year's course constitute the fourth or freshman class; those taking the second year's course, the third or sophomore class; those in the third year's course, the second or junior class; and those in the fourth year's course, the first or senior class.

Day Student Status

Only students who have cadet, day, or veteran status and have been accepted into degree seeking status in the day program may attend classes in the day program. Day student status is reserved for the cadet who meets academic criteria for continuance, has completed eight semesters in the Corps of Cadets and eight semesters of ROTC, and has *very nearly* met all graduation requirements. When a cadet becomes eligible for day student status, he will be required to submit to the Records Office a plan, properly endorsed by his faculty advisor, for meeting graduation requirements. A student will not normally be permitted to continue in day student status for more than one calendar year. If during this period satisfactory progress toward the completion of degree requirements is not made, the student will be discharged from the college for failure to meet academic standards.

A cadet who has been awarded a baccalaureate degree through the cadet program is no longer eligible for day student status except when pursuing a second baccalaureate degree as outlined below.

Should a student become ineligible to continue his studies in cadet, day, or veteran status, he cannot earn a degree which is offered through the day program.

Pursuing A Second Baccalaureate Degree

Under certain circumstances, a student may wish to pursue two *different* baccalaureate degrees. Although this is not encouraged, it will be allowed under the following conditions:

1. the student must complete all requirements of each degree;
2. the student must complete a minimum of 30 hours beyond the initial degree;
3. the student must have completed most requirements for the second degree while pursuing the initial undergraduate degree;
4. the second degree must be pursued in day student status;
5. the student must normally complete requirements for the second degree within one calendar year of completing the initial undergraduate degree.

A student who has earned a baccalaureate degree through the cadet program will not be *readmitted* as a day student to pursue a second undergraduate degree.

Pursuing A Double Major

Under certain circumstances, a student may wish to pursue two different majors within the *same* baccalaureate degree. Although this is not encouraged, it will be recognized under the following conditions:

1. the student declares his intentions no later than the fall semester of his junior year;
2. both majors are offered under the same baccalaureate degree;
3. the student completes all requirements for each major;
4. the student, in addition to achieving a minimum overall grade point ratio of 2.00, achieves a minimum grade point ratio of 2.00 based on all credit hours and all quality points earned in course work taken in *each* major department.

A student who has met these requirements will have both majors indicated on his transcript.

Graduate Courses

Under the following conditions, undergraduates may be permitted to enroll in graduate courses offered by, or through, The Citadel:

1. that the student be of certifiable and exceptional ability (as reflected by a provisional acceptance in the particular graduate program of The Citadel, a cumulative GPR of at least 3.5, and other supporting data) or be granted conditional acceptance by a cooperating university to enroll in courses for graduate credit as administered by that university;
2. that the student be permitted to take one graduate course only;

3. that the student be permitted to take the course only in the final semester of the senior year;
4 that the student have completed all requirements for the undergraduate degree or will complete them in the semester in which the graduate course is taken;
5. that the taking of the course be approved by the department head of the major, the department head in whose department the student will take the course, and the dean of undergraduate studies;
6. that the credit for the graduate course will not be applied toward requirements for a baccalaureate degree and that hours of record and numbers of quality points will not be affected by such courses;
7. that the awarding of the graduate credit be contingent upon the completion of the baccalaureate degree requirements in that semester.

ROTC Commissioning Requirements

Although cadets are required to enroll in ROTC during every semester during which they are enrolled at The Citadel or until they have completed eight semesters, they are not required to accept, nor are they guaranteed to be offered, a commission in one of the Armed Forces.

A cadet pursuing a commission through an ROTC program must complete the entire ROTC program of the applicable service or that portion specified by the commanding officer of the ROTC unit concerned.

Transfer Between ROTC Programs

The early selection of a service's ROTC program by a cadet is extremely important since the entire curriculum of each ROTC program differs from service to service and each is sequential and progressive. A transfer between programs, therefore, may prove to be undesirable. For these reasons, a cadet who transfers from one ROTC program to another after the freshman year may be required to make up certain ROTC courses so that he will have the proper background for the new program. Any courses required to be made up will be in addition to the normal ROTC requirements for graduation. As noted above, a cadet who is pursuing a commission will normally be required to complete a service's entire ROTC program.

As in the case of a change in an academic major, a cadet may not transfer between ROTC programs without written approval. Applications for transfer must be submitted on forms available from the registrar. All students must consult with both the losing and gaining ROTC commanding officers to ascertain the effect of the proposed transfer.

In no case of a transfer between ROTC programs will the number of ROTC semesters required for graduation be reduced, nor may more than 16 credit hours be applied toward completion of graduation requirements.

Confidentiality of Student Records

The Family Educational Rights and Privacy Act of 1974 is a federal law which states (a) that a written institutional policy concerning educational records must be established and (b) that a statement of adopted procedures covering the privacy rights of students must be made available. The law provides that the institution will maintain the confidentiality of student education records.

The Citadel accords all the rights under the law to students who are declared independent. No one outside the institution shall have access to nor will the institution disclose any information from students' educational records without the written consent of students except to personnel within the institution, to persons or organizations providing students financial aid, to accrediting agencies carrying out their accreditation function, to persons in compliance with a judicial order, and, in an emergency, to persons in order to protect the health or safety of students or others. All these exceptions are permitted under the act.

Within The Citadel community, only those members, individually or collectively, acting in the students' educational interest are allowed access to student educational records. These members include personnel in the offices of the president, vice president for academic affairs, registrar, director of admissions, director of financial aid and scholarships, comptroller, and commandant and academic personnel within the limitation of their need to know.

At its discretion, the institution may provide directory information in accordance with the provisions of the act to include student name, address, telephone number, date and place of birth, major field of study, dates of acceptance, degrees and awards received, the most recent previous educational agency or institution attended by the student, participation in officially recognized activities and sports, and weight and height of members of athletic teams. Students may withhold directory information by notifying the registrar in writing within two weeks after the first day of class for each fall term.

Request for non-disclosure will be honored by the institution for *only* *one* academic year; therefore, authorization to withhold directory information must be filed annually in the office of the registrar.

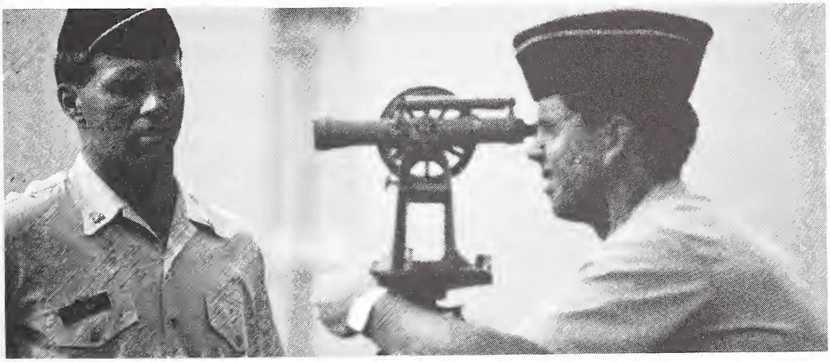
The law provides students with the right to inspect and review information contained in their educational records, to challenge the contents of their educational records, to have a hearing if the outcome of the challenge is unsatisfactory, and to submit explanatory statements for inclusion in their files if they feel the decisions of the hearing panels to be unacceptable. The registrar at The Citadel has been designated by the institution to coordinate and review procedures for the inspection of student educational records, which include admissions, personal, academic, cooperative education, and placement records. Students wishing to review their educational records must make written requests to the registrar listing the item or items of interest. Only records covered by the act will be made available within 45 days of the request. Students may have copies made of their records with certain exceptions (e.g., a copy of the academic record for which a financial "hold" exists, or a transcript of an original or source document which exists elsewhere). These copies would be made at the students' expense at prevailing rates. Educational records do not include records of instruction, administrative, and educational personnel which are the sole possession of the maker and are not accessible or revealed to any individual except a temporary substitute, records of the law enforcement unit, student health records, employment records, or alumni records. Health records, however, may be reviewed by physicians of the students' choosing.

Students *may not* inspect and review the following as outlined by the act: financial information submitted by their parents; confidential letters and recommendations associated with admissions, employment or job placement, or honors to which they have waived their rights of inspection and review; or educational records containing information about more than one student, in which case the institution will permit access *only* to the part of the record which pertains to the inquiring student. The institution is *not* required to permit students to inspect and review confidential letters and recommendations placed in their files prior to January 1, 1975, provided those letters were collected under established policies of confidentiality and were used only for the purposes for which they were collected.

Students who believe that their educational records contain information that is inaccurate or misleading, or is otherwise in violation of their privacy or other rights, may discuss their problems informally with the registrar. If the decisions are in agreement with the students' requests, the appropriate records will be amended. If not, the students will be notified within a reasonable period of time that the records will not be amended; and they will be informed by the registrar of their rights to a formal hearing must be made in writing to the vice president for academic affairs who, within a reasonable period of time after receiving such requests, will inform students of the date, place, and the time of the hearing. Students may present evidence relevant to the issues raised and may be assisted or represented at the hearings by one or more persons of their choice at the students' expense. The hearing panels which will adjudicate such challenges will be the vice president for academic affairs and such other officials of the college as he may designate.

Decisions of the hearing panels will be final and will be based solely on the evidence presented at the hearing. Written statements summarizing the evidence and stating the reasons for the decisions will be delivered to all parties concerned. The educational records will be corrected or amended in accordance with the decisions of the hearing panels, if the decisions are in favor of the students. If the decisions are unsatisfactory to the students, the students may place with the educational records statements commenting on the information in the records, or statements setting forth any reasons for disagreeing with the decisions of the hearing panels. The statements will be placed in the educational records, maintained as part of the students' records, and released whenever the records in question are disclosed.

Students who believe that the adjudications of their challenges were unfair or not in keeping with the provisions of the act, may request in writing assistance from the president of The Citadel concerning the alleged failures of The Citadel to comply with the act. Revisions and clarifications will be pubished as experience with the law and the institution's policy warrants.



Military Policies

General

The Citadel is justly proud of its military training program which contributes significantly to the State of South Carolina and the nation in the form of military and civilian leadership. The Citadel is one of four Essentially Military Colleges remaining in the country. Today, Citadel graduates are adding to the rich heritage of their alma mater as officers in the armed forces and as leaders in the state and nation.

The military training at The Citadel is conducted by active duty officers and noncommissioned officers of the U.S. Army, U.S. Navy, U.S. Air Force, and U.S. Marine Corps. These active duty military personnel are organized into the Department of Military Science (Army Reserve Officers' Training Corps), the Department of Naval Science (Naval Reserve Officers' Training Corps), and the Department of Aerospace Studies (Air Force Reserve Officers' Training Corps). Military training is conducted for all cadets attending The Citadel, since it is a college requirement that all graduates must complete either the Army, Navy, or Air Force program. Additional information concerning the military programs offered at The Citadel may be found in the departmental section of this catalogue.

Commandant of Cadets

The Commandant of Cadets supervises the Corps of Cadets and its daily routine of duties. He grants leaves and other privileges provided for by regulations and is charged with the maintenance of discipline over all cadets attending The Citadel. The commandant exercises supervision over barracks, controls the officer-in-charge and the cadet guard, and keeps the president of the college informed on matters pertaining to the administration, conduct, and discipline of the Corps of Cadets.

Discipline

Because The Citadel is a military college, high standards of conduct and discipline must be maintained. Through a system of merits and demerits, a record is kept of the conduct of each cadet. This record influences his military standing. Privileges are curtailed for those cadets who fail to respond to ordinary corrective measures. Any cadet exceeding the allowed limit of demerits or other punishments may be dismissed.

By instruction and example, cadets are taught to be neat in person and in uniform. Daily inspections of rooms ensure cleanliness and good order. Through individual personal contact and group meetings, cadets are encouraged to uphold the traditions of The Citadel and the standards of honor, integrity, and courtesy which are an outstanding mark of the cadet and gentleman.

Management

Leadership, initiative, and character are developed by placing upon cadets the stimulating responsibilities of command within the organization.

All cadets live in barracks. From reveille to taps, every hour of the cadet's time is accountable. The regular habits of study and living thus formed, the attention to duty, obedience to authority, and appreciation of order inculcated are considered among the most valuable features of the military education. While some of the graduates enter the military profession, hundreds in all walks of civil life attest to the high value of the training received at the institution.

The daily routine is regulated by the *Cadet Regulations,* generally known as "The Blue Book."

Allowances of Demerits

When any cadet accumulates more than 20 demerits per month in his senior year, 22 per month in his junior year, 24 per month in his sophomore year, or 30 per month in his freshman year, he will be declared unsatisfactory in conduct. Cadets repeating any part of the fourth class year are allowed only 24 demerits per month.

Customs and Courtesies

A booklet published at The Citadel is designed to provide cadets with a compact manual of proper etiquette and the customs and courtesies of the service. All cadets receive instruction in these subjects and are furnished a copy of this booklet for their personal use.

After explaining clearly the value of a knowledge of the correct way of conducting oneself in social contacts, the booklet presents detailed information on such matters as personal appearance and dress, table manners, introductions, calling cards, calling, social correspondence, overnight visits, and punctuality.

Automobiles

Cadets of the first, second, and third classes are authorized to have automobiles at The Citadel. These vehicles must be registered with The Citadel Provost Marshal. Registered vehicles require current state registration, liability insurance, and state inspection where applicable.

Cadets of the Fourth Class are not authorized to have, maintain or drive an automobile within the area bounded by Spring Street on the South, Rutledge Avenue on the East, and St. Margaret Street on the North.

An on campus parking fee per normal school year (Sept. - May) is charged per vehicle. Each registered vehicle will be assigned an individually reserved space. Each cadet vehicle must display a set of cadet decals indicating the assigned parking space number on *both* the front and rear bumpers (or at normal bumper location if vehicle is not so equipped). All vehicles occasionally or regularly driven on campus by cadets, students, faculty or staff must be registered and are operated and parked on campus at each owner's risk. Unregistered or illegally parked vehicles are subject to ticketing or towing at each owner's expense and risk.

Motorcycles

Two- or three-wheeled motorized vehicles are not authorized to be operated on campus.

Reserves and National Guards

Cadets are authorized to become members of Army, Navy, Air Force, or Marine Corps Reserves or National Guard units. Students who join such organizations should join local units in the Charleston area. Cadets joining such organizations must understand that cadet responsibilities take priority. Academic classes, the President's Inspection, and certain formations will not be missed to attend drill requirements for such organizations.

Leaves

It is expected that parents will not ask for special leaves for their sons except in cases of extreme emergencies. In every case the reason for the leave must be stated and the decision left to The Citadel authorities whether the circumstances warrant the approval of the application. This must be done before leaves will be approved.

The paragraph which follows is extracted from *Cadet Regulations:*

"803c(4). EMERGENCY LEAVES.

Emergency leave may be granted only upon request of the parent or guardian in the event of death or critical illness of a member of the cadet's immediate family."

Duration of this leave will be predicated upon distance and time required but should normally not exceed five days. The immediate family ncludes parents, grandparents, brothers, sisters, and the permanent resident members of the family.

Critical illness is defined as an illness of such proportions that death may be imminent.

Special leave normally may be granted upon request of the family or guardian only in the event of the marriage of a member of the cadet's mmediate family or golden wedding anniversary in the cadet's family.

Cadets may be granted special leave for such unusual business affairs as cannot be arranged by correspondence but require the presence of the cadet in person. In these cases applications from parents or guardians tating the circumstances are required. In all cases, the final decision must est with the authorities of the college.

The Citadel has a weekend and overnight leave policy based on ncreasing class privileges for cadets who maintain academic and conduct proficiency.

Furloughs are granted at Thanksgiving, at Christmas, in the spring, and upon completion of the second semester.

The following paragraphs pertaining to medical leaves are extracted rom *Cadet Regulations:*

"601. MEDICAL CARE. Cadets who are receiving medical care under the auspices of a private doctor will in all cases report the nature of the treatment, to include the illness and prescribed medication, to the urgeon."

Except in an emergency occurring on leave requiring immediate ttention, a cadet will not arrange for or receive professional treatment rom doctors or specialists without permission from The Citadel Surgeon. Applications for any special leaves required for such treatment will be ubmitted to the surgeon and, if approved, will be forwarded by the urgeon to the commandant.

"605. SPECIAL MEDICAL AND DENTAL SERVICE:

a. Dental work, special examinations of the eyes, etc., should be looked after during the summer, Christmas, or spring furlough periods.

b. In case the service of local dentist, oculist, or other specialist is deemed necessary, the request therefor will be submitted to the surgeon who, if he approves the request, will make all necessary appointments fo the cadets. *No appointment with physicians other than the surgeon wil be made by any cadet with a doctor in Charleston."*

The Fourth Class System

The purpose of the Fourth Class System at The Citadel is to lay the foundation, early in a cadet's career, for the development of those qualities of character and discipline implied in the mission of The Citadel as a military college—to produce young men with alert minds and sound bodies who have been taught high ideals, honor, integrity, loyalty, and patriotism; who accept the responsibilities which accompany leadership; and who have sufficient professional knowledge to take their places in a competitive world.

These personal qualities must be deeply ingrained in the individual sc that neither time nor troubles will diminish his respect for complying with the customs and traditions set forth for the fourthclassman's conduct. The tradition of The Citadel cannot be maintained by men who will do nc more than is required of them. Self-discipline and self-evaluation develop men whose integrity and sense of duty cause them to serve selflessly beyond the prescribed limits of their tasks.

The Fourth Class System is both difficult and demanding. It represents an abrupt change from the life normally experienced in the home anc encompasses the entire period of a cadet's first year at The Citadel. It i administered impersonally but at the same time exhibits the individua understanding necessary for effective leadership. It requires a full measur of mental preparedness and physical endurance.

Because of the nature of the new cadet's training during his first week at The Citadel, physical demands upon him are necessarily great Experience indicates that the cadet who, prior to admission, ha conditioned himself physically is best able to meet the training require ments.

At the time of your medical examination, consult with your physicia regarding your body weight. Particular attention should be given t estimated percent body fat, which provides a much more accurate figur for determining proper body weight than height/weight charts. If bod eight loss appears to be indicated, follow your physician's advice relative reducing caloric intake and increasing caloric expenditure.

The Charleston climate is generally conducive to year-round outdoor hysical activity; however, the hot, humid conditions of August and eptember present several problems worthy of consideration. It is erefore important that you prepare yourself by controlled exposure to milar conditions during exercise. Although complete acclimation may ot be possible prior to your arrival at The Citadel, some adaptation will ertainly occur. During periods of exercise, dress comfortably and avoid lastic/rubber or heavy cloth sweatsuits.

In preparation, it is advisable to begin with a light to moderate work ad of jogging and walking for a 15- to 20-minute period, progressing to nger periods of jogging preceded and followed by calisthenics such as ush-ups, bent-leg sit-ups, "jumping jacks," and ½ knee-bends. *Avoid ch exercises as full-knee bends, straight-leg sit-ups, and straight-leg lifts.*

Continued progress should be made until 3 to 5 miles can be covered approximately 25 to 40 minutes, respectively. Before, during, and llowing exercise, it is important to replace body fluids. This prevents ehydration, aids in heat loss, and prevents muscle cramps and other iscomforts.

In addition, each applicant for entry into The Citadel should be ssured through a physical examination that he has no history of physical lments which could possibly cause his discharge due to inability to articipate in the Fourth Class System.

The Fourth Class System by nature appears arbitrary on the surface. It emands prompt and unquestioning obedience of authority through the se of a collection of customs and traditions. However, each of the ements or customs has a special purpose in furthering a cadet's evelopment.

The system includes standing at a rigid position of attention, turning quare corners when walking, undergoing neatness inspections before rmations, learning various items of fourth-class knowledge, working on pproved company details such as minor chores incident to keeping one's wn area of the barracks in order, and submitting to a variety of minor strictions concerning the use of certain campus grounds and facilities, e wearing of the uniform, and the general conduct of a fourthclassman.

Cadets who are unable to meet the desired standards or violate one or ore of the customs are subject to corrective action. This can range from verbal reprimand to walking tours on the quadrangle of barracks and ay include restriction to the limits of campus. In extreme cases, a cadet ho is unable to conform to the military way of life may be brought before a suitability board to determine his fitness to continue at Th Citadel.

The measures described above are designed to test a cadet's mettle an to determine his motivation for cadet life. Their value lies in developing cadet's ability to perform his duty successfully under trying and stress producing conditions.

Hazing is not a part of the Fourth Class System and is not tolerated The suffering of degradation, humiliation, and indignity does not foste the rapid development of those qualities sought in fourthclassmen.

The Fourth Class System is a formidable challenge to any young man The decision to enter The Citadel must be preceded by a conviction o the part of the prospective cadet and his parents that he has the menta and physical characteristics appropriate to the system and he possesses willingness to undergo the system's rigors with a determination to see i through and to reap its benefits.

Although the system is demanding and difficult, the rewards ar considerable. They more than justify the effort. At recognition by th Corps in May, a better man emerges—one who is mentally, morally physically, and spiritually prepared to accept the reins of leadership whic will ultimately be his at The Citadel and in the world.

Those students transferring from the national service academies (specifically the Military Academy, the Naval Academy, the Air Forc Academy, the Coast Guard Academy, and the Merchant Marin Academy), Virginia Military Institute, or any other institution at whic such students have:

a. successfully completed their participation in a fourth class or pleb system;
b. been full-time students in good standing in an ROTC program fo the period of their enrollment at such an institution;
c. been enrolled at any of the foregoing institutions for a minimum o two semesters

shall have the option of requesting a transfer out of the Fourth Class System after one semester at The Citadel, provided at that time they ar at least academic sophomores. Eligible students exercising this option t transfer out of the Fourth Class system shall have no rank, nor have an authority over the other fourthclassman for the balance of the academi year. All other transfer students will be expected to undergo a full year o the Fourth Class System at The Citadel. The Commandant of Cadets wi make the final decisions on requests for transfer.

ROTC Programs

ARMY ROTC PROGRAM

The purpose of the Army ROTC program at The Citadel is to attract, otivate, and train cadets with the potential to serve as commissioned ficers in the Regular Army, Army Reserve, or the National Guard.

Regardless of a cadet's academic major, there is an Army specialty that n provide a training ground for its utilizations. Besides the combat ms specialties of infantry, armor, field artillery, aviation, air defense tillery, and engineer, the active Army and the Army Reserves have a ed for officers in communications electronics, communications elec- onics engineering, law enforcement, tactical/strategic intelligence, coun- rintelligence, electronic warfare, cryptology, administrative and person- l management, community activities management, finance, aviation aterial management, communications electronics material, missile mate- al management, chemical munitions material management, petroleum anagement, subsistence management, marine and terminal operations, ghway and rail operations, maintenance management, and material/ rvice management. Advanced alternate specialties are also available in e fields of training development, personnel programs management, mptroller, public affairs, foreign area officer, operations research/ stems analysis, research and development, atomic energy, automated ta systems management, operations and force development, transpor- tion management, and procurement.

Finally, the Army needs officers in the Judge Advocate General Corps, edical Service Corps, Medical Corps, and the Chaplaincy.

U.S. Army ROTC Graduates

Graduates of The Citadel's Army ROTC program have the opportunity serve their country in a variety of ways. Those cadets who have celled academically and militarily both in the classroom and at ROTC lvanced camp and who have clearly demonstrated high moral character, tstanding leadership ability, and excellence in the military arts will be lected as Distinguished Military Students and can be afforded the pportunity to apply for direct appointment in the Regular Army. Those cadets who accept this honor will serve a minimum of three years o active duty, in the same status as a graduate of the U.S. Militar Academy, in one of the Army's many specialties for which he is bes qualified.

Graduates also have the opportunity to serve as Reserve officers eithe on active duty or as a member of the United States Army Reserve o National Guard. Those who desire to be in the National Guard or Reserve unit will serve 90 days active duty for training at an officer basi course within one year after graduation and then serve as a "citize soldier" in a unit near their home, graduate school, or work.

Scholarships

The Army sponsors two-, three-, and four-year scholarships fo outstanding cadets who desire careers as officers in the United State Army. Each scholarship provides for tuition, registration, college infi mary fees, laboratory fees, and an allowance for textbooks. In additio the scholarship recipient receives monetary subsistence allowance of $10 a month for the academic year that the scholarship is in effect. I addition, Citadel academic scholarships may be available to help defra college expenses.

Pay and Allowances

Will you need money to fund your social life or offset expenses Certain reimbursements are funded by the Department of the Army fo ROTC cadets in the Army program. Cadets enrolled in the basic cours (initial two years) will have a uniform allowance stipend credited to thei student accounts each year. Those cadets formally enrolled in th advanced course (final two years) will also have a uniform allowanc credited to their accounts each year. In addition, those cadets who sig an Army contract during the advanced course will receive a $10 allowance paid to them each month by check. During a six-wee advanced camp, between their junior and senior years, all contract cadet attending the camp receive one-half the base pay for a second lieutenan plus 18.5 cents per mile travel to and from camp and their home o residence. Outstanding cadets may be selected to attend Ranger school airborne school, air assault school, Northern Warfare Training Center, o cadet troop leading training with U.S. Army troop units at the pay scal mentioned above.

Enrollment

The basic requirements for formal enrollment in Army ROTC are isted below. These requirements must be fully met before the professor of military science can consider a cadet for enrollment in the Army program Cadets not meeting these standards are not eligible for commissions or ROTC monetary allowances):

be a citizen of the United States;

be of good moral character (Cadets convicted by civil or military court for offenses other than minor traffic violations are not eligible for enrollment without specific approval of the Department of the Army. A cadet may apply for a waiver of conviction, provided the offense was nonrecurring and did not involve moral turpitude.);

maintain satisfactory academic standards with his class (A 2.0 cumulative GPR is required for advanced camp attendance and commissioning);

maintain a satisfactory leadership rating (This rating is determined by the commandant of cadets, the professor of military science, and other appropriate Citadel officials.);

be physically qualified under Department of the Army standards. Qualification for the basic course (initial two years) is usually met by a statement from The Citadel that the cadet can perform normal military duties.

Formal enrollment in the advanced course (final two years) and application for an Army contract require an Army administered physical examination, normally given during the spring of the third-class (sophomore) year. Waivers of physical defects are granted only in exceptional cases, and then only by authority of the Department of the Army. In addition, the applicant must pass an Army administered physical fitness test.

NAVY/MARINE ROTC PROGRAM

Because of its location in a coastal city with a major Naval complex and nearby Marine Corps facilities to render support, The Citadel's Naval Reserve Officer's Training Corps Unit is perhaps unique in its ability to educate and train Navy and Marine Corps officers.

Two programs leading to commissioned grade in the Naval Services are offered: The Navy/Marine Corps Scholarship Program for selected Naval Scholarship cadets assigned to The Citadel who have their tuition and the majority of their college expenses paid by the Navy Department; and the Naval ROTC College Program for cadets who receive limited financial assistance during their junior and senior years.

Navy/Marine Scholarship Program

Navy/Marine Scholarship students are selected through national competition and attend one of the 64 colleges or universities with Naval ROTC units. Each year a number of the Naval ROTC College Program cadets at The Citadel may receive direct scholarship appointments from the Chief of Naval Education and Training. The Naval Scholarship cadets attending The Citadel may enroll in any academic major offered by the college. However, emphasis will be placed upon engineering and hard science majors for those whose goal is a Navy commission. These students attend three summer training periods with pay. In return, the Navy Department provides tuition, certain fees, all textbooks, a uniform allowance, and $100 a month subsistence allowance. Upon graduation, Naval Scholarship cadets receive Regular commissions as ensigns in the U.S. Navy or second lieutenants in the U.S. Marine Corps and serve on active duty for a minimum of four years.

Naval ROTC College Program

The Naval ROTC College Program is offered for cadets who wish to earn commission as officers in the U.S. Navy or U.S. Marine Corps. These Naval cadets may enroll in any academic major at The Citadel. College Program students must attend a minimum of one summer training cruise with pay. The Navy furnishes all naval science textbooks, provides an annual uniform allowance, and pays a monthly subsistence of at least $100 a month during the junior and senior years. Upon graduation, these Naval cadets receive Reserve commissions in the U.S. Navy or the U.S. Marine Corps and serve on active duty a minimum of three years. While serving on their initial duty, they may apply for a Regular commission and gain the opportunity of a full career of active duty service.

College Program cadets may compete in national competition for either Navy or Marine scholarships; additionally, they are eligible to compete for direct appointment to scholarship status through the Chief of Naval Education and Training.

Enrollment

To be eligible for enrollment in the Naval ROTC program one must:

—be a citizen of the United States;

—have reached the 17th anniversary of his birth by September 1 of the year enrolled;

—not have reached the 21st anniversary of this birth by June 30 of the year enrolled; and

—be physically qualified (defective vision must be correctable to 20/20 and waivers for color blindness may be considered).

Those cadets not qualified for or not desirous of formal enrollment in either the Scholarship or College Program may participate in naval science courses for academic credit only. They will not be eligible for appointment to commissioned grade.

Selection of Navy/Marine Option

Naval cadets may, upon matriculation, exercise an option and indicate a desire for a commission in either the U.S. Navy or U.S. Marine Corps. This option must be exercised prior to the beginning of the junior year as the Navy and Marine curricula become independent during the last two years. All candidates for the Marine-option must have the recommendation of the Marine officer instructor and the approval of the professor of naval science.

NROTC Summer Training

Navy/Marine Scholarship cadets are required to perform training of approximately six weeks of the three summers between their freshman and senior years. The first summer's training is performed aboard operational ships of the fleet. During the second summer, Naval cadets receive orientation in four major naval warfare areas at major naval installations. These warfare areas include surface warfare, submarine warfare, naval aviation, and Marine Corps amphibious warfare. During the third summer, candidates for U.S. Navy commissions perform their training aboard fleet operational ships, serving as junior officers; candidates for U.S. Marine Corps commissions perform their training at the U.S. Marine Corps Development and Education Command, Quantico, Virginia. Transportation costs to and from the sites of training, subsistence and quarters-in-kind, and one-half of an ensign's or second lieutenant's pay will be paid to all participating Naval cadets.

Naval ROTC College Program cadets are required to perform one summer of training duty between the junior and senior years. The period of training is about six weeks. Candidates for commissions in the U.S. Navy normally will perform their training aboard operational ships of the fleet. Candidates for commissions in the U.S. Marine Corps will perform their training at the U.S. Marine Corps Development and Education Command, Quantico, Virginia. Transportation costs to and from the sites of training and one-half of an ensign's or second lieutenant's pay will be paid to all participating Naval cadets.

Summary of Estimated Naval ROTC Allowances

Navy/Marine Scholarship Program:

Each scholarship pays the tuition, registration, college, hospital, and laboratory fees outlined in this catalogue. The total amount of fees paid by the government and the amount which must be paid by the student are shown at the end of the descriptions of ROTC programs. In addition to these fees, the following payments are also made:

Uniform allowance—approximately $1,400 over four years
Subsistence allowance—$100 per month (up to 40 months) tax free
Summer training pay—one-half of an ensign's or second lieutenant's pay for period of training
Books—all books provided or paid for

College Program:

Uniform allowance—approximately $1,400 over four years
Subsistence allowance—$100 per month (up to 20 months) tax free

AIR FORCE ROTC PROGRAM

The mission of The Citadel's Air Force ROTC Detachment is to provide instruction, training, experience, and motivation to each cadet choosing the Air Force ROTC program and to insure that he possesses the knowledge, character, and qualities of leadership essential to an officer.

Emphasis is placed on the preparation of the dedicated professional officer who accepts responsibility readily, thinks critically and creatively, and writes and speaks effectively. The Air Force ROTC program at The Citadel is a major source for this kind of Air Force officer.

Citadel graduates have served both the Air Force and the nation well in war and peace. Today's Citadel cadets can be expected to assume important command and managerial positions in the aerospace forces of the future.

Four-Year Program

The four-year Air Force ROTC program at The Citadel serves as a major commissioning route for young men interested in becoming officers in the U.S. Air Force.

Each student enrolls at the beginning of his freshman year, and during the first two years he pursues the General Military Course. This presents the organization, mission, and functions of the U.S. defense establishment and examines the development of air power over the past 80 years.

During the sophomore year cadets who are physically qualified and have maintained good academic standing may apply for entry into the advanced portion of the program. Each cadet desiring a commission will attend a four-week field training course.

Selected and qualified cadets enroll in the Professional Officer Course, the last two years of the Air Force curriculum. Included in the third-year curriculum are studies in communicative skills, leadership in theory and practice, the principles and functions of management, and problem solving. The final year includes the military justice system, the role of the professional officer in a democratic society, the requisites for maintaining adequate national security forces, the constraints upon the national defense structure, the effect of technological and international developments on strategic preparedness, and an analysis of the defense policy-making process.

Formal Enrollment Requirements

General Military Course

1. Be a citizen of the United States.
2. Maintain satisfactory academic standards.
3. Have good moral character.
4. Sign a certificate of loyalty to the United States Government.
5. Successfully complete a course in English composition (applies to AFROTC scholarship holders).
6. Successfully complete a course in English composition and one year of a major Indo-European or Asian language (this requirement applies only to AFROTC scholarship cadets).

Professional Officer Course

1. Complete the General Military Course.
2. Be physically qualified.
3. Agree to serve on active duty for eight years after completion of Undergraduate Flying Training for pilot or six years for navigator.
4. Enlist in the USAF (Obligated Reserve Section) for a specified period of time. A cadet selected for the Professional Officer Course who willfully evades the terms of his advanced course contract or who completes the course but declines to accept a commission when offered may be ordered to active duty to serve in his enlisted grade.
5. Maintain satisfactory academic standards.

6. Successfully complete (or have completed) a course in mathematical reasoning.

Field Training

Citadel cadets pursuing a commission through AFROTC are required to attend a four-week training course at an Air Force base, normally during the summer between the sophomore and junior years. To most cadets this is a memorable experience, because they get a close-up look at Air Force life and operations. Each cadet receives practical guidance in junior officer training, aircraft and aircrew orientation, small-arms familiarization, physical training, survival training, and career orientation, as well as training in many other areas needed by the Air Force professional.

Base Visits

The vast scope of the United States Air Force is difficult to portray in the classroom. In partial compensation, the Air Force ROTC detachment at The Citadel takes selected cadets to the Air Force—in the form of visits to Air Force bases. On these trips the cadets receive briefings on base activities, observe Air Force operations firsthand, and, as a highlight, take an orientation ride in a large jet transport. They return to school with a more accurate perspective of the global nature of the organization in which they will serve. Experience has shown that these visits are of considerable value in developing a cadet's appreciation of the Air Force officer's challenging career.

Fees Covered by ROTC Scholarships
For South Carolina Students

Freshmen	**Total**	**Amount Paid By Government**	**Amount Paid By Student**
First Semester	$4,815.00	$1,103.50	$3,711.50
Second Semester	2,158.00	1,078.50	1,079.50
Total	$6,973.00	$2,182.00	$4,791.00
Sophomores			
First Semester	$2,610.50	$1,103.50	$1,507.00
Second Semester	2,585.50	1,078.50	1,507.00
Total	$5,196.00	$2,182.00	$3,014.00

Juniors			
First Semester	$2,544.50	$1,103.50	$1,441.00
Second Semester	2,519.50	1,078.50	1,441.00
Total	$5,064.00	$2,182.00	$2,882.00
Seniors			
First Semester	$2,508.50	$1,103.50	$1,404.50
Second Semester	2,483.00	1,078.50	1,404.50
Total	$4,991.00	$2,182.00	$2,809.00

For Out-of-State Students

Freshmen	**Total**	**Amount Paid By Government**	**Amount Paid By Student**
First Semester	$6,132.00	$2,420.50	$3,711.50
Second Semester	3,475.00	2,395.50	1,079.50
Total	$9,607.00	$4,816.00	$4,791.00
Sophomores			
First Semester	$3,927.50	$2,420.50	$1,507.00
Second Semester	3,902.50	2,395.50	1,507.00
Total	$7,830.00	$4,816.00	$3,014.00
Juniors			
First Semester	$3,816.50	$2,420.50	$1,441.00
Second Semester	3,836.50	2,395.50	1,441.00
Total	$7,698.00	$4,816.00	$2,882.00
Seniors			
First Semester	$3,825.00	$2,420.50	$1,404.50
Second Semester	3,800.00	2,395.50	1,404.50
Total	$7,625.00	$4,816.00	$2,809.00

Pay and Allowances

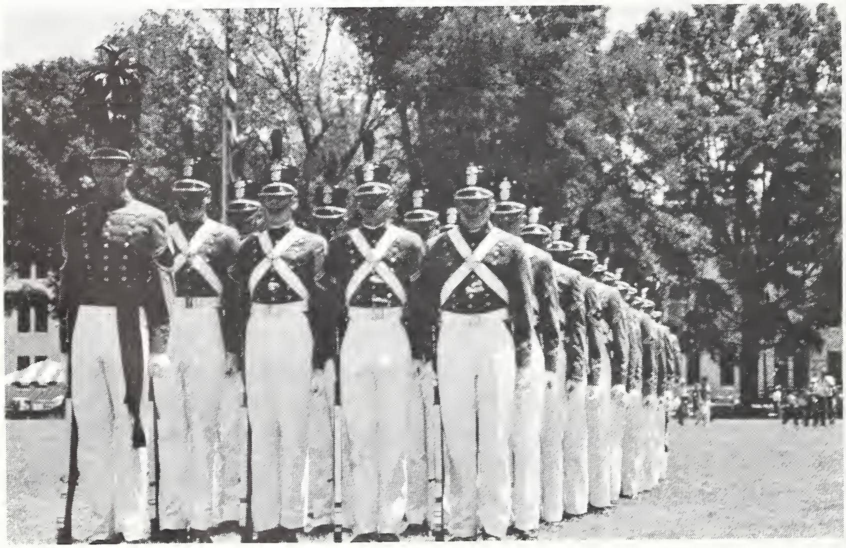
Students formally enrolled in the General Military Course (initial two years) and the Professional Officer Course (final two years) are paid an annual uniform allowance. A cadet must be enrolled at least 45 days to receive this allowance. Uniform allowances are not paid directly to cadets but are credited to their student accounts.

A cadet selected for the Professional Officer Course will be provided subsistence pay at the rate of $100 per month beginning on the day he starts advanced training and ending upon the completion of his instruction. In no event shall any cadet receive such pay for more than 20 months.

AFROTC College Scholarship Program

To attract top-quality students, Air Force ROTC is authorized to grant up to 6,200 scholarships which provide full tuition, registration fees, college fees, hospital fees, laboratory fees, and a textbook allowance. Uniform allowances are also accredited to cadets accounts at The Citadel. Scholarship recipients are paid a tax-free subsistence of $100 per month. The total amount of fees paid by the government and the amount which must be paid by the cadet are shown below. Cadets attending The Citadel or desiring to attend are eligible to compete for these four-, three-, and two-year AFROTC scholarships. Selections are made on the basis of the cadet's academic grades, officer aptitude as reflected on the Air Force Officer Qualifying Test, SAT scores, medical examination, demonstrated performances, and an interview by a panel of officers. In addition, Citadel scholarships are available to help further defray college expenses.

AFROTC Scholarship recipients must successfully complete at least one year of instruction in a major Indo-European or Asian language. Demonstration of foreign language proficiency can be used to satisfy this requirement.



Expenses

The Citadel, The Military College of South Carolina, is supported by the State of South Carolina. The costs of operation are underwritten through collection of fees from the students and appropriations made by the General Assembly of South Carolina. Nonresidents are required to pay a larger portion of the costs of their education than is required of residents of South Carolina.

The Treasurer, The Citadel, is responsible for the collection of monies due The Citadel. All correspondence concerning fees, payments, and status of accounts should be directed to that office.

Fees

The fees shown below are required to be paid by all students. Please note that the required fees at The Citadel include *all normal expenses* to be incurred by a student including dry cleaning, laundry, room, board, and infirmary care. The college reserves the right to adjust fees to meet the current cost of operation should it become necessary.

Expenses for South Carolina Students*

Registration	$ 25.00
Tuition Fee	125.00
College Fee	1,702.00
Athletic Fee	155.00
Auxiliary Services	2,334.00
Total Fees:	$4,341.00

Expenses for Out-of-State Students

Registration Fee	$ 25.00
Tuition Fee	385.00
College Fee	3,896.00
Athletic Fee	335.00
Auxiliary Services	2,334.00
Total fees:	$ 6,975.00

*South Carolina residents are those persons who meet the residency requirements specified in the South Carolina Code of Laws, Act #466-1978 and amendments thereto. All other persons must pay out-of-state fees.

All fees and deposits are due and payable by semester, prior to the date of reporting to school for registration. Payments of fees are due as shown on the table presented later in this section. Failure to pay the invoice or any part thereof subjects the student to being dropped from enrollment at The Citadel. Bills for the regular academic year will be sent to parents or guardians approximately one month prior to the due date. All remittances should be by money order or check, made payable to The Citadel and mailed to the Treasurer, The Citadel, Charleston, South Carolina 29409.

Parents or legal guardians are held responsible for payment of all fees and overdrafts unless the treasurer is notified prior to due dates that the student or some other party has assumed this responsibility.

Since summer and evening school fees are based upon the credit hours taken, it is not feasible to pre-bill these fees. Summer and evening programs are described under separate headings.

Information relative to financing educational fees on a monthly installment basis—such as the Tuition Plan of New Hampshire, Inc., the Knight Insurance Agency, Inc., or the Academic Management Service—may be secured by writing to the treasurer at The Citadel. Financial arrangements require time for processing, so it is essential that applications be made as soon as possible.

Unsatisfactory Accounts: A student whose account is in an unsatisfactory condition will not be issued or be allowed to send copies of his official transcript, be issued a diploma, or be permitted to enroll in additional course work until satisfactory settlement of the account has been made.

Non-negotiable Checks: There will be a handling charge of $10 for a non-negotiable check. The college will pursue collection procedures as provided by the laws of the State of South Carolina. The Citadel will not accept personal checks from individuals who have issued two non-negotiable checks.

Pocket-Money: The Citadel does not handle pocket-money accounts. All allowances for pocket-money should be determined by the parents and sent directly to the cadets. Cadets receiving substantial allowances for their personal needs should deposit this money in The Citadel Depository, which is maintained for the accommodation and convenience of the cadets. This depository is located in the treasurer's office in Bond Hall.

Explanation of Deposits

Deposits for Books, Supplies, Uniforms, and Accessories: In addition to the fees previously described, each student is required to deposit funds to his account to cover the cost of books, supplies, uniforms, accessories, alterations to uniforms, haircuts, personal items, laboratory fees, engineering drawing equipment and supplies, and other miscellaneous expenses relevant to his studies or attendance at The Citadel. The amount of the deposit has been estimated based upon the average needs. If a student should exceed the deposit, additional funds will have to be added o his account.

The required deposits are as follows:

Freshmen		
Uniforms	$2,100	
Books, Supplies, and Accessories	532	
		2,632
Sophomores		
Uniforms	$ 400	
Books, Supplies, and Accessories	455	
		855
Juniors		
Uniforms	$ 268	
Books, Supplies, and Accessories	455	
		723
Seniors		
Uniforms	$ 195	
Books, Supplies, and Accessories	455	
		650

Books, Supplies, and Accessories: This deposit has been kept to a minimum to cover only necessary educational requirements. Different cademic majors may require other expenditures which are unique to that major field.

The required deposits will not permit the purchase of additional nonssential or nonrelated educational items. Therefore, a student will not be ermitted to charge such nonrequired purchases or charges as:

class rings, swords, magazine subscriptions or paperbacks not academically required, military services — dining ins/mess nights, and club dues.

Students who have been awarded a full Athletic grant-in-aid requir approval from the Athletic Department for all purchases.

Uniforms: All cadets are required to wear The Citadel uniform which i issued by the college. New cadets are required to be outfitted in ne outer uniforms and uniform accessories issued by the college. New cadet should not bring a supply of civilian clothes other than those which ar worn upon reporting to the college, as they are not permitted to wea civilian clothes except during authorized furloughs.

The cost of uniforms, although a paid fee, should be viewed as clothing expense which is incidental to attending any college. With prope care, the uniform should last for several years. Of course, the requirements during the subsequent years will depend on the manner in whic the cadet has cared for his uniform. The overall cost of the unifor should not exceed that which would be incurred in purchasing clothes t attend a civilian college. (Additional sets of uniforms may be purchase as desired for cash in the Cadet Store.)

The woolen uniforms issued to cadets are custom-made for Th Citadel. Once the uniforms have been fitted to a cadet, the entire cost wil be charged to him. Since the uniforms are tailor-made to the measurements of each cadet after enrolling at The Citadel, every cadet withdrawing from college will be charged a cancellation fee for canceling th purchase of the uniforms.

In order to keep the appearance of the Corps of Cadets at the highes level, an inspection will be made of the articles of uniform of members o the sophomore, junior, and senior classes at the beginning of the schoo year. If the uniforms do not meet the minimum standards of appearance the individual will be required to purchase a replacement for th unserviceable item of uniform.

Statement of Student's Account

A monthly statement is furnished each student. *It is incumbent upo the student to verify each charge or credit made to his account. After h has verified the charges and credits, he should forward the statement t his parents or guardian for their information. If the student's account i overdrawn, he should go to the treasurer's office to determine if h should make an additional deposit.*

The unexpended balance of the deposit will be returned upon reques at the close of the academic year; otherwise, it will be held to the student's credit until the next academic year, or until he withdraws o graduates from The Citadel. The college treasurer should be notified i redit in the account is to be applied to a first semester bill. *A parent or uardian of a cadet must request the refund.*

Full athletic grant-in-aid recipients are not authorized to receive a efund. Balances in accounts of full athletic grant-in-aid recipients are efunded to the Athletic Department annually.

Explanation of Fees 1987-88

Reservation Fee: A reservation fee of $100 is required of all cadets. his fee is not an additional charge but is an advance payment toward he fees due for the fall semester and will be shown as a credit on the first emester bill. It assures a cadet a place in the Corps of Cadets and arracks for the following August.

All new cadets are required to pay this fee within 15 days after notice f acceptance has been received from the admissions office.

A cadet currently enrolled who plans to continue his education at The itadel is also required to pay the reservation fee not later than July 1 for he fall semester. If this fee is not paid by July 1, The Citadel is not bligated to permit him to continue his education at The Citadel.

The reservation fee will be refunded to students who notify the registrar writing not later than July 1 to cancel their reservations at The Citadel. fter July 1, this fee will be refunded only to those upperclassmen ophomores, juniors, and seniors) who have been dropped from enrollent at The Citadel because of academic deficiencies or other causes.

Auxiliary Services Fee: A fee of $2,334.00 per academic year is assessed ach student to cover room, board, laundry, dry cleaning, and normal firmary care. For the purpose of loan applications for 1987-88, room and oard should be shown as $1,779.00 and laundry, dry cleaning, and firmary at $555.00.

Due to many uncontrollable factors, the college reserves the right to crease this auxiliary fee at any time to meet current increases in the cost f operation. This fee is refundable upon withdrawal from school as own later in this section.

Breakage: A $50 fee will be maintained by all barracks students rolled at The Citadel. When there is insufficient money in the cadet's ccount to cover the cost of damages to buildings, rooms, equipment, or ss of ROTC manuals and government property, this deposit will be sed. It is refundable after graduation or withdrawal from The Citadel.

Graduation Service Charge: The charge for diploma and other aduation costs is $40. A $50. fee will be charged for duplicate diplomas.

Transcript Fee: Official transcripts of scholastic records will be rnished upon written request. There is no charge for the initial transcript, but a fee of $3 is charged on all subsequent ones. Remittanc for transcripts should accompany the application for the transcript an should be mailed to the registrar (payable to The Citadel).

Laboratory Fee: A laboratory fee of $25 a semester is charged student taking courses involving laboratory work in biology, chemistry, civ engineering, electrical engineering, geology, modern languages, physic and any computer course. Varying fees are assessed for certain physica education courses and Canteen sponsored bowling. These lab fees ar used to cover the added expense of supplies and costly equipment used i the teaching of these courses. This fee is not collected but is included i the estimated deposit for books and supplies and is chargeable against tha deposit.

Schedule for Payments for South Carolina Residents

Due Date	*Freshmen*	*Sophomores*	*Juniors*	*Senior*
Reservation Fee due within 15 days of notice of acceptance	$ 100.00			
Reservation Fee on or before July 1		$ 100.00	$ 100.00	$ 100.0
First Semester Fees & Deposit*				
8/3/87 for freshmen	4,815.00			
8/10/87 for upperclassmen		2,610.50	2,544.00	2,508.0
Second Semester Fees & Deposit 12/14/87	2,158.00	2,585.50	2,519.50	2,483.0
**Total Academic Year	$6,973.00	$5,196.00	$5,064.00	$4,991.0

Schedule for Payments for Out-of-State Residents

Due Date	*Freshmen*	*Sophomores*	*Juniors*	*Senio*
Reservation Fee due within 15 days of notice of acceptance	$ 100.00			
Reservation Fee on or before July 1		$ 100.00	$ 100.00	$ 100.0

irst Semester Fees				
& Deposit*				
8/3/87 for freshmen	6,132.00			
8/10/87 for upperclassmen		3,927.50	3,861.50	3,825.00
econd Semester Fees				
& Deposit				
12/14/87	3,475.00	3,902.50	3,836.50	3,800.00
*Total Academic Year	$9,607.00	$7,830.00	$7,698.00	$7,625.00

NOTE: The $100 Room Reservation Fee will be credited against this nount.

*NOTE: Total payment includes deposits on uniforms, accessories, oks and supplies.

Refunds

The Citadel is committed to many expenses based upon the anticipated rollment at the beginning of each term. Registration at The Citadel is nsidered to be a contract binding the student and his parent or ardian to charges for the entire term.

However, students who withdraw during a term may receive partial funds based on the length of attendance. Refunds will be computed om registration date until withdrawal date as determined by the gistrar. No refunds will be made for less than $1.00.

uthorized refunds are as follows:

Tuition, College, and Auxiliary Services Fees (except Room Reserva-
on Fee and Board Fees):

ength of enrollment	*Semester fees refunded*
ss than one week	80%
e to two weeks	60%
o to three weeks	40%
ree to four weeks	25%
ter four weeks	none

Room Fee:

The $100 room reservation fee is forfeited. The remaining amount of e room fee is refunded as shown above.

Board Fees:

Board fees will be prorated and refunded on the basis of days enrolled.

Deposits for Books, Supplies, Uniforms, and Accessories:

The unused portion of the deposit to the student's account for books, supplies, uniforms, and accessories will be refunded.

Refunds will be mailed approximately 45 days after discharge.

May graduates will receive a check for the credit in their accounts approximately one week prior to graduation.

Additional Information

All cadets are required to furnish their own bedclothes except a bedspread and blanket which will be issued to each cadet. Beds and mattresses are provided by the college, but pillows are not. One plastic mattress cover will be issued at cost to each cadet. Cadets *must* come provided with the following articles:

Two pajamas
Twelve white tee shirts and twelve undershorts
*Twelve pairs of black socks
Six pairs of white athletic socks
One pair of bedroom slippers or shower shoes
One pair of good tennis shoes (non-marking)
One pair of good jogging shoes
Ten white towels
One pillow
Two pairs of plain toe, smooth leather, black oxford shoes (with rubber heels) or one pair of plain toe, smooth leather, black oxford shoes (with rubber heels) and one pair of black oxford corfam shoes (with rubber heels). Fourthclassmen will not be authorized to wear corfam shoes to formations and inspections but will be authorized to wear them to classes, other duty, and when going on leave.
One military-style blanket for single bed
Toilet articles
Four white sheets for single bed
Three white pillow cases
Twelve white handkerchiefs

*Black *cotton* socks are suggested. Experience has proven that the wearing of socks made of synthetic materials has contributed to blistering and, in some cases, secondary infection.

Some of the above items are available at The Citadel Cadet Store. Summer hours are maintained from 8 a.m. to 4:30 p.m. Monday through Friday.

In addition to the required items listed above, cadets may bring or obtain later the following articles:

One reading desk lamp
One picture with frame no larger than 8″ x 10″

One radio, stereo, or tape recorder (no more than two speakers 12″ x 24″) per room

One clock

One oscillating fan

Since the college does not furnish bed items, it is advisable that each cadet who ships his belongings to The Citadel bring with him two sheets, one pillow case, and one pillow for his use until he is able to get access to his belongings.

New cadets are advised to break in their cadet uniform shoes at least hree weeks prior to reporting to The Citadel.

Before the opening of the first semester, a new cadet is assigned an dentification number, which he retains as long as he remains at The Citadel. This six-digit number will be used by the cadet as an dentification number and as his laundry number.

It is suggested that new cadets *not* mark their clothing, bedding, etc., prior to their arrival at The Citadel.

Upon entering The Citadel, each new cadet is issued a marking kit bearing his name and initials and identification number for use in marking his clothing, uniforms, bedding, books, etc.

Luggage

It is advisable to bring inexpensive trunks and suitcases since it is not permissable to retain them in the cadet's room. Luggage may be stored in he Central Warehouse at the risk of the owner. One piece (overnight bag) necessary for weekend or athletic trips may be kept in the cadet's oom.

The Citadel has only a limited amount of space to store cadet luggage. Therefore, it is necessary that, when a cadet withdraws or graduates, he emove his luggage immediately from the warehouse before departing. If t is necessary to ship luggage home, it will be C.O.D., and an appropriate charge will be made for packing and handling. If after notification has been given an ex-cadet or graduate that his luggage has been left in he warehouse and no reply is received within 30 days giving direction for shipment or disposal thereof, The Citadel will automatically dispose of he luggage.

Luggage sent by commercial transportation should be clearly identified, with name of the cadet, company letter and/or barracks number or name, and shipped to The Citadel, Warehouse Manager, Central Warehouse, Charleston, South Carolina 29409.

The warehouse manager should be notified in advance of shipment. Upon receipt, the luggage will be placed in the cadet's barracks.

Employment

The time of a cadet at The Citadel is so taken up with his duties that there is little opportunity for employment for the purpose of financial assistance. However, there are a limited number of part-time jobs available from time to time with various campus activities. These jobs are not of a substantial nature which can be relied upon to pay a cadet's college fees.

Hospital Group Insurance

The Citadel has made arrangements with a private insurance company for a group hospitalization program available to all cadets and veteran students on a voluntary basis. The particulars of this program are provided to the parents or guardians and veteran students prior to each school year. This program is approved by The Citadel but operated by the private insurance agency.

The cadet insurance policy is designed to provide supplemental insurance and may not provide adequate coverage for all illnesses or injuries. It is emphasized that it is up to the student, parent, or guardian, as the case may be, to determine what they feel constitutes adequate coverage.

Infirmary

The Citadel is staffed with full time physicians and registered nurses who provide high quality health care. The infirmary has 38 in-patient beds and x-ray and laboratory capabilities. Routine infirmary care consisting of initial evaluation and treatment of medical problems is provided without added expenses to cadets. Special medical and minor surgical services are available for minimal costs which cover medical supplies. The costs of x-rays, prescription drugs, laboratory studies, and minor surgical procedures will be charged to the cadet's account. When accident insurance is available, the infirmary staff will assist the student in filing the claim to recover these costs.

Other regular day students may be treated at the infirmary on an out-patient basis for minor illness or minor injury at a minimum cost per visit. For medical care requiring hospitalization, these students will be referred to a local hospital.

All other students (evening, graduate) may receive first aid at the infirmary only in cases of emergency occurring on campus (serious illness, serious injury) and will be immediately transferred to a local hospital. A charge will be made for such service.

The use of The Citadel infirmary is available to both veteran and day students upon payment of the prescribed semester infirmary fee, or in accordance with the published schedule of individual visit rates.

Each applicant approved for admission must complete The Citadel Medical History and Physical Examination Form which requires a thorough physical examination with selected laboratory testing. The physical requirements for entrance into The Citadel are based on the U.S. Army Medical Standards. Final acceptance is contingent upon approval of the physical examination by The Citadel Surgeon.

Day and Veteran Students

Eligibility criteria for day student status are presented under separate heading in the Academic Policies section of this catalogue. Certified veterans (see the Requirements for Admissions section of this catalogue) are also, within the limits established by the policies of the institution, permitted to participate in the day program at The Citadel.

Schedule of Payments for South Carolina Students
Veteran and Day Students

Fees:	**Total**	**1st Semester Fees Due 8/10/87**	**2nd Semester Fees Due 12/14/87**
Registration Fee	$ 25.00	$ 25.00	$
Tuition	125.00	62.50	62.50
College Fee	1,702.00	851.00	851.00
Athletic Fee	155.00	77.50	77.50
Book and Supply Deposit	300.00	150.00	150.00
Total	$2,307.00	$1,166.00	$1,141.00

Schedule of Payments for Out-of-State Students

Fees:	**Total**	**1st Semester Fees Due 8/10/87**	**2nd Semester Fees Due 12/14/87**
Registration Fee	$ 25.00	$ 25.00	$
Tuition	385.00	192.50	192.50
College Fee	3,896.00	1,948.00	1,948.00

Athletic Fee	335.00	167.50	167.50
Book and Supply Deposit	300.00	150.00	150.00
Total	$4,941.00	$2,483.00	$2,458.00

Students financing their education through the Veterans Administration may arrange alternative schedules through the veterans affairs officer and the college treasurer.

Summer Session

A summer session is conducted for students who wish to accelerate their work or to address academic problems.

The summer session must be self-supporting, and the same fees are charged to both South Carolina and out-of-state students. Fees for the two-term summer session are as follows:

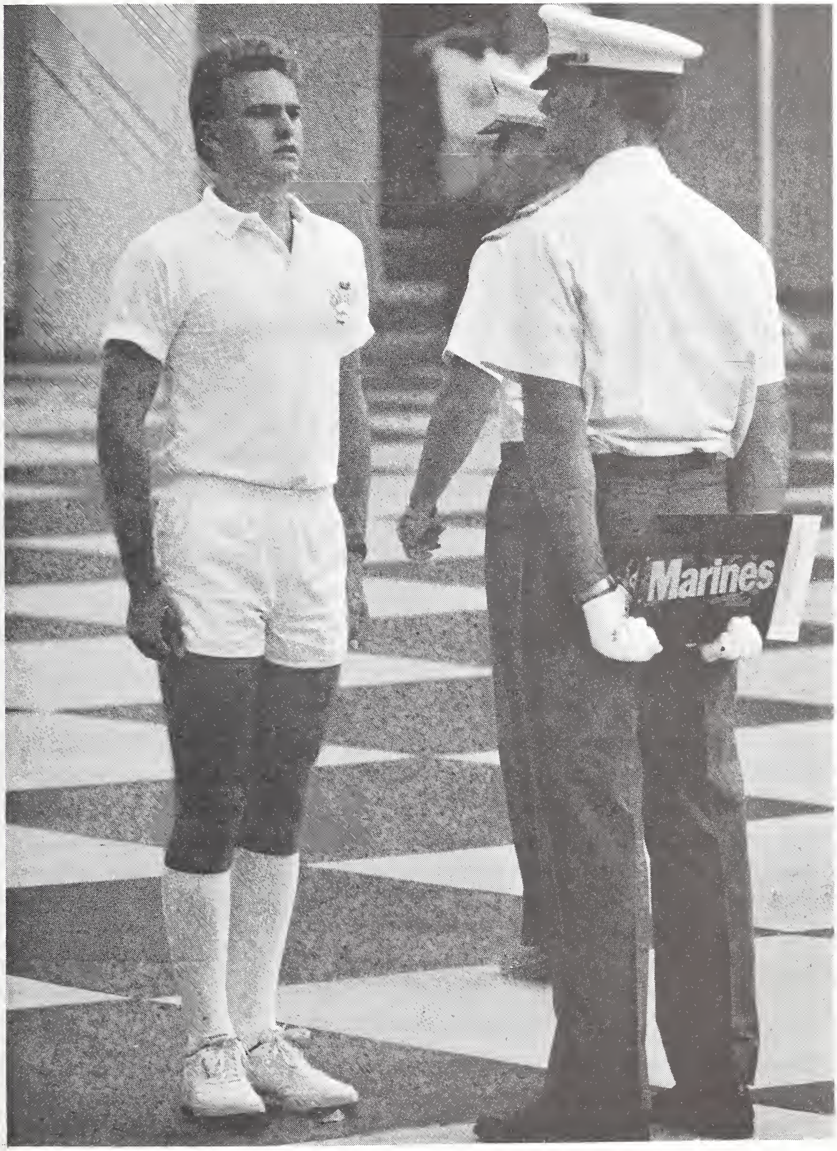
	Each Term
Registration	$ 5.00
Fee—$75 per semester credit hour (undergraduate)	....
Fee—$75 per semester credit hour (graduate)	....
Room, Board, Laundry, Infirmary, and Student Activities (available only to cadets)	$400.00
Laboratory—for laboratory courses in biology, chemistry, physics, computer science, and languages	$25.00

A course change fee of $5 per course will be charged. In addition, a withdrawal fee of $10 per course will be charged. A $30 student activity fee will be assessed for students not living in barracks, but who desire to use recreational facilities.

Students who register but later decide not to attend classes will be charged the $5 registration fee and a withdrawal fee of $10 for each course. Students who have not cleared their accounts within the first 10 days of class will be disenrolled from all course work. There will be no refunds of tuition after the first 10 days of class.

During the summer session all purchases of books and supplies will be on a cash basis. There will be no charging to the student's account since no book or supply deposits will be collected.

Bills for the summer session will not be sent to the parents by the treasurer. It is impossible for the treasurer to compute these bills since the fee is based on the number of credit hours of work scheduled by the student. The student should come supplied with sufficient cash to take care of his fees for the summer session. Details of the summer school program may be had by obtaining a copy of the Summer School Bulletin from the registrar's office.



Scholarships

The purpose of The Citadel's scholarship program is to attract to the college outstanding high school graduates and to assist those worthy students who desire financial help to complete their college education.

How to Apply

An application for a Citadel scholarship must be obtained from the Director of Financial Aid and Scholarships, The Citadel, and must be returned to that office no later than January 15 prior to entering in the following fall. Entering freshmen must be accepted for admission to The Citadel before a scholarship application can be considered. Through one application the applicant is considered for all scholarships.

Since a number of scholarships specify need as a condition of the award, each applicant is required to submit a confidential Financial Aid Form (FAF) to the College Scholarship Service.

Entering freshmen should obtain the Financial Aid Form through their local high schools. Cadets should direct their requests to the scholarship office.

Determination of Awards

All scholarship applicants are carefully studied by the Scholarship Committee. They are evaluated on a strict point system where consideration is given to class standing, SAT scores, personal achievement (in high school in the case of entering freshmen), leadership potential, and overall character references. Consideration is necessarily given to the donors' wishes in selecting recipients who meet the criteria set by the individual scholarship deeds of trust.

Notification of Awards

Applicants are notified in March of the scholarship awarded, or they are advised that no award has been made.

"Normally no student may receive more financial assistance through

the office of the treasurer of the college, from whatever source or sources combined, in a single year than the catalogue costs for that year except that students living on campus will be permitted to retain up to $600 of authorized Pell Grant entitlements for personal expenses and students living off campus will be permitted to retain up to $900 of authorized Pell Grant entitlements for the same purpose."

Each year scholarships are given to qualified cadets entering The Citadel for the first time and, based on both academic and military accomplishments in the Corps, to qualified cadets presently enrolled at the college.

Listed below are some of the current scholarships:

The Captain William Forman Abernethy Memorial Scholarship has a value of $1,000. It is awarded annually to the rising senior who has shown the greatest amount of determination and perseverance in improving himself during his years at The Citadel.

The Joe E. Adams, Sr., Class of 1922, Scholarship was established in his memory by his son, Joe E. Adams, Jr., Class of 1955. This award is restricted to members (or dependents of members) of the Main Street United Methodist Church, Greenwood, South Carolina. Its value is approximately $1,000 a year for four years.

The Joseph D. Aiken Scholarships cover all expenses, as outlined in the catalogue, for the first three years and are supported by a trust fund made possible by a bequest of the late Mr. Joseph D. Aiken. They are limited to applicants from the New England states, with some preference given to Rhode Island and Connecticut residents.

The Lillian Malone and her son, Edgar Stanton Alexander, Scholarship has been established by Mr. Dietrich Biemann Alexander, Class of 1922. Restricted to a cadet from Greenwood County, South Carolina.

The William A. Altman, Jr., Scholarship was established in 1982 by William A. Altman, Jr., Class of 1931. The scholarship is restricted to residents of South Carolina or the son of a South Carolina native who has financial need.

The American Public Works Assocation Scholarship was established by the South Carolina chapter of that association. It pays $500 a year to a senior civil engineering student who has financial need and is a resident of South Carolina.

Association of Citadel Men Scholarships are maintained by the Association of Citadel Men and are valued at $200 each. The scholarships are awarded for one year only to entering cadets and upperclassmen.

The Fred J. Attaway, III, Scholarship was established by Mr. and Mrs. Fred J. Attaway, Jr., in memory of their son, Class of 1972. This scholarship has a monetary value of up to $1,000 for one year.

The Major James W. Ayers Scholarship is in memory of Major Ayers, Class of 1957, who lost his life in the service of his country in Vietnam. It is given to an entering freshman, with preference to a resident of Berkeley County, interested in becoming a member of the United States Marine Corps upon graduation. The value is up to $500 a year for four years.

M. Ralph Bagnal, Jr., Scholarship was established in 1983 by the Builders Association of the Midlands located in Columbia, South Carolina, in gratitude and appreciation of Mr. M. Ralph Bagnal, Jr.'s, Class of 1947, contributions to the home building industry. The scholarship is restricted to incoming freshman cadets from the state of South Carolina and preferably from the Columbia area. The recipient should be active in the framework of the Citadel Religious Community.

Baruch Scholarships, with a value of $500 to $1,000 each for one year, were inaugurated from the income of a fund donated to The Citadel by the late Mr. Bernard Baruch. Awarded annually to juniors and seniors.

Annie Wysong Benson - Nana Mae Richter Mizell Scholarship was established in 1983 by John C. Benson, Class of 1943, and his wife, Sara Katharine, in honor and memory of their respective mothers. Restricted to cadets majoring in business administration or political science who are average students (high C's to medium B's). Five year students may be considered. If a rising junior has three brothers who have graduated from The Citadel or two brothers graduated and a third brother in the Corps, he will automatically qualify excluding the above restrictions. The recipient should be active within the framework of the Citadel Religious Community.

The W. W. Benson Scholarship pays all expenses, as outlined in the catalogue. Named in memory of the late Major W. W. Benson, Class of 1907, it is supported by his friends from Greenwood County, South Carolina. Preference is given to athletes from the Greenwood area or from South Carolina, all things being equal.

The Birmingham Area Citadel Club Scholarship was created by contributions and matching gifts donated by the Birmingham Area Citadel Club. Established April 1980. Recipient to be a resident of Birmingham.

The Oliver J. Bond Scholarship is supported by the income from a trust fund established by alumni as a memorial to the late Colonel Oliver J. Bond, President of The Citadel, 1908-1931. The present value is $1,000 a year for four years.

The William P. Bowers Scholarships were established by the late Mr. Bowers, Class of 1918, and were enhanced by a bequest from his will. They pay $1,000 a year and are awarded to South Carolina cadets, with a preference to residents of Hampton County or adjoining counties.

The Alton H. Bryant Memorial Scholarships are worth $1,000 a year for four years. They are in memory of Lieutenant Alton H. Bryant, a graduate of the Class of 1940, who lost his life in the service of his country. Applicants are limited to residents of Orangeburg County, South Carolina.

The Karl Irvin Buse Scholarship, was established by a bequest of Karl Irving Buse in September of 1984. To be awarded to a cadet with financial need and who exhibits scholarship athletic ability, extracurricular activities, leadership, integrity, industry, respect of his fellow cadets, evidence of ability and responsibility.

Cadet Insurance Aid Plan provides scholarships maintained by the Cadet Insurance Aid Plan from revenue derived from the dividends of life insurance policies voluntarily purchased by members of graduating classes since 1953. This fund supports both athletic and academic scholarships.

The Richard P. Cardwell Scholarships were established by General Eugene F. Cardwell and the late Mrs. Cardwell in memory of their son, Cadet Richard P. Cardwell, a member of the Class of 1957. They are awarded each year to members of the Corps of Cadets and have a value of $500 each year for one year.

The Carrigg Scholarships were established by a bequest to The Citadel and have a value of $1,000 a year for four years.

The Frank W. Cayce Memorial Scholarships are four-year scholarships and pay $1,000 a year. These scholarships were made possible by the late Mrs. Zulale J. Dowling, who bequeathed to The Citadel her entire estate for the purpose of establishing an educational scholarship fund in memory of her grandson, Cadet Frank W. Cayce.

The Central North Carolina Citadel Scholarship, was established in 1987 by Wallace Andrew Kennedy, Jr., Class of 1958. A candidate shall be a resident of one of the thirty-three (33) central North Carolina counties as named in the Deed of Trust, and supported by The Citadel Club of the Piedmont Area of North Carolina. If no qualified candidate is available from these counties then a resident of North Carolina may be considered, the candidate shall be well-rounded and possess an average or better scholastic record. Awards are limited to $2,000 per year per recipient and may be renewed yearly if the student is deemed worthy. Financial need is not a criteria and the scholarship is not available to athletics.

The Christmas Contribution Fund Scholarship is derived from contributions made to this fund in lieu of Christmas cards or as memorials. The monetary value is varied, as the entire amount contributed is awarded each year. This scholarship is open to cadets who have financial need.

The Citadel Development Foundation Scholarships are allotted from the Foundation each year. They have a monetary value of from $750 to $1,000. These scholarships are open to both entering freshmen and currently enrolled students.

Citadel Scholars Scholarship Program is supported by The Citadel Development Foundation to attract outstanding students. Twelve scholarships are awarded each year to residents of South Carolina and six to residents of other states. These scholarships pay all expenses, as listed in the catalogue, for four years. Selections are made by the Committee on Scholarships of The Citadel and are based on scholastic and leadership ability and a personal interview.

The Mark W. Clark Scholarship is $2,000 a year for four years and is supported jointly from an income made possible by the late General Mark W. Clark, President Emeritus of The Citadel, and from a trust fund established in his honor by the alumni.

The Renie Clark Scholarship is $1,500 a year and awarded each year to a member of the senior class. This scholarship is a memorial to Mrs. Mark W. Clark, who was the first lady of The Citadel for more than 11 years.

The Class of 1934 Scholarship was established through the efforts of Mr. Jesse T. Reese, '34 and fellow classmates in February 1980 as a perpetual fund in the name of the Class of 1934. First scholarship warded in 1984/85. Recipient should be a male resident or son of a esident of South Carolina with financial need.

The Class of 1967 Scholarship was established in 1982 by the Class of 967. It is restricted in order of priority to a son of a deceased member of he Class of 1967, a son of a member of the Class of 1967, a son of an lumnus, or any qualified applicant.

Class of 1975 Scholarship was established by the graduating class of at year to be awarded to the rising senior cadet who is in the exact iddle of his class. The award pays approximately $100.

The Class of 1980 Memorial Decade Scholarship was established by he Class of 1980. To be continued by each graduating class therafter ith a $1.00 contribution from each graduate. Collections and income ver a ten-year period are to be used for a scholarship in 1990.

The John Murray Compton Scholarship was established in 1986 in emory of the late John Murray Compton, Class of 1943, by his widow ary Ellen C. Compton and family. The recipient must possess those trributes of ability, character, temperament and personality that are in ccord with the traditionally high standards of The Citadel, be a resident f Summerville, South Carolina, but need not be a "Straight A" student. hould a student meeting the criteria not be available, a student from the urrounding Summerville area wil be considered.

The Crouch-Lee Scholarships have a value of $500 a year for four ears. The James. R. Crouch award was founded in 1925 by the late Mr. rouch, Class of 1899, of Greenville, South Carolina. The William States ee Scholarship was founded the same year by the late Mr. Lee, Class of 894, of Charlotte, North Carolina. The deeds provided that the eneficiaries should be limited to residents of South Carolina.

The Bessie L. Daniel Scholarship was established by William R. aniel, Class of 1959, in honor of his mother. Restricted to cadets who re United States citizen, from a Protestant Community and active in ampus Christian activities. The cadet should possess attributes of ability, haracter, temperament, and personality that are in accord with the high tandards of The Citadel.

The Henry Deas, Jr., Memorial Scholarship was established by the riends of the late Mr. Henry Deas, Jr., Class of 1938. This award pays 250 in alternate years.

Harry S. Dent Americanism Scholarship was established by U. Senator Strom Thurmond, advisor to the John P. Gaty Charitable Tru Awarded annually to needy and worthy students, selection is based on paper on Americanism, the specific topic of which is announced prior January 1. Applications must be submitted by December 1 and man scripts by March 1 of the academic year preceding the award.

The Louie T. Des Champs Memorial Scholarship was established Colonel C. A. Des Champs, Class of 1927, in memory of his nephe Class of 1951. Preference is given to descendants of person who ha served in the armed forces or are residents of California.

The Dillon County Scholarships were established by the late Mr. Thomas Dillon and are restricted to cadets from Dillon County, Sou Carolina.

The Todd L. Dorney Memorial Scholarship was established by parents in memory of their son, Class of 1980. This scholarship awarded each year to a rising senior who has been exemplary in military performance.

The William S. Dosher Scholarships were established by Dr. Willia S. Dosher and pay $1,000 a year for four years. Preference is given applicants from Hanover and Brusnwick Counties, North Carolina.

The James W. Duckett Scholarships are supported by contributio from alumni in honor of Major General James W. Duckett, Pa President of The Citadel. These scholarships pay $500 a year for fo years.

The David M. Duning Scholarship was established by Dr. Peter Gutierrez as a memorial to Lieutenant Dunning, Class of 1980. It pa approximately $500 each year, and preference is given to residents Lake County, Indiana, and then to residents of the State of Indiana.

The duPont Scholarships were established by the late Mrs. Jessie Ba duPont and subsequently increased by a contribution from the Jessie Ba Religious, Charitable, and Educational Fund.

The Captain Timothy Allen Dusenbury Memorial Scholarship, Cla of 1974, was established by his widow and is restricted to a senior with Marine Corps Option NROTC contract. Preference is given to Company commanders and/or Summerall Guards from the southe section of the United States.

The Senior Private I. B. Early, Citadel Class of 1951 Scholarship, was established by William B. Mills, Class of 1951, and wife Annette T. Mills, in honor of I. B. Early. Awarded to a cadet believed to be possessed of attributes of ability, character, temperament, and personality that are in accord with the high standards of The Citadel. First consideration will be a rising senior private with financial need and a North Carolina resident, first from the county of Davidson, then in no specific order, the counties of Guilford, Randolph, Montgomery, Alamance, Chatham, Wilkes, Iredell, Stanly, Surry, Rockingham, Moore, Cumberland, Lee, Person, Richmond, Union, Orange, Yadkin, Davie, Alexander and Catawba. If no qualified candidate, then a resident of North Carolina, if no beneficiary qualifies from North Carolina then a resident from Florida. Need is not to be the sole or determinative factor, athletics are excluded.

The Milton L. Eliades Memorial Scholarship fund was established by hree classmates of the late Major Eliades, Class of 1964. It is available to upperclass cadets.

The J.O. Estes Scholarships were established by Mr. Estes to be awarded to needy Citadel students from Anderson or Greenville Counties, South Carolina.

The Martha Lee and Columbus Jefferson Ellison Scholarship was stablished by Dr. Reuben Y. Ellison in 1986 in memory of his parents. n selection of a recipient, financial need and South Carolina residency re the primary requirements. In addition, the recipient must possess the ttributes of ability, character, temperament, and personality that are in ccord with the traditionally high standards of The Citadel.

The Captain Joe Wofford Eubanks Memorial Scholarship was estab-shed by the parents of the late Captain Joe Wofford Eubanks, Class of 969, who lost his life in the service of his country in Vietnam. It is estricted to out-of-state cadets majoring in history and having financial need.

The Thomas Holland Evans Memorial Scholarship was established by Mr. and Mrs. Thomas Evans in memory of their son, Lietuenant Thomas Holland Evans, Class of 1968, who lost his life while in the service of his ountry. It is given to an entering freshman, and financial need is a major equisite.

The Exchange Club of Charleston Scholarships are awarded each year o one or two outstanding students from Charleston County.

Edward M. Foxworth Scholarship Fund was established in 1983 through a generous gift from Ruth G. Foxworth, the wife of Edward M Foxworth, Class of 1931. The recipient shall be an incoming freshma from South Carolina with high moral character, integrity, a record concerned citizenship, an outstanding high school record, and financi need. This scholarship may be continued for the sophomore, junior, an senior years if the student is deemed worthy.

Lt. John L. Fuller, Jr., Scholarship was established in 1983 in honor Lt. John L. Fuller, Jr., Class of 1966, who was killed in Vietnam whil serving in the United States Marine Corps. This scholarship has bee made possible by his classmates and friends. It is open to any cadet any class who needs financial assistance.

The G.E. College Bowl Scholarship was established in April 1970 fro funds of $5,000 won by The Citadel team participating in the Gener Electronic College Bowl. It is to be used to support scholarships.

Greenville-Piedmont Citadel Club Scholarship, with a value of $500 based upon need and is given annually to an outstanding young ma from Greenville County.

Anthony D. Griffin Scholarship was established in 1983 in honor the late Anthony David Griffin, Class of 1974, who was killed in a nav aircraft crash. This scholarship was made possible through pledges classmates, family, and friends. The scholarship is restricted to senio cadets taking into consideration financial need and membership in th Summerall Guards or Junior Sword Drill (preferably not the commande of either unit).

The James A. Grimsley, Jr., Scholarship has a value of no less tha $2,000 a year for four years, supported by the income from a trust fun established by alumni in honor of Major General James A. Grimsley, Jr Class of 1942 and current President of The Citadel.

The Peter E. Gutierrez, M.D., Indiana Scholarship was established b Dr. Gutierrez, Class of 1948. It pays $500 a year for four years to resident from Indiana, preferably one from Lake County.

The Hugh P. Harris Scholarships were establilshed in honor of the lat General Hugh P. Harris, Past President of The Citadel. They pay $500 year for four years.

The Chester E. Hatch, Jr., Memorial Scholarships were established b the widow of Mr. Hatch, Class of 1937. They pay $500 a year to junior or seniors majoring in chemistry.

The B. Calhoun Hipp Scholarships have a value of $500 for one year. hey are awarded annually to young men from the Greenville area or partanburg County.

The John M.J. Holliday Scholarship was established in 1983 by John 1.J. Holliday, Class of 1936, and past chairman of The Citadel Board of isitors. The scholarship is restricted to incoming freshmen who are outh Carolina residents, and preference is given to students from the ee-Dee area. Although not mandatory, demonstrated scholastic abilities nd financial need are considered. This scholarship may be continued for ıe sophomore, junior, and senior years if the student is deemed worthy.

The James L. Hood, III, Memorial Scholarship was established by 1rs. Hood, as a memorial to her husband, Class of 1971. The award has value of up to $1,000 a year for four years. It is restricted to applicants om Greenville County, South Carolina.

The Toney B. Jackson Scholarships, established by the late Mr. Toney . Jackson of the Class of 1915, are given to residents of South Carolina ho are members of the sophomore class. These scholarships have a ılue of up to $500 a year for one year.

The Jenkinson-Haynsworth Scholarship, was established in 1987 by /illiam E. Jenkinson, W.E. Jenkinson, III, Gordon B. Jenkinson and aynsworth M. Jenkinson. Selection of a recipient based on applicants om Williamsburg County, South Carolina, with financial need, who is elieved to be possessed of those attributes of ability, character, mperament, and personality that are in accord with the high standards f The Citadel. If no candidate is available from Williamsburg then a esident or a son of a South Carolina native with financial need may be onsidered.

The Dr. Robert Russell Jeter and John Randolph Jeter Scholarship, as established in 1987 by Colonel John R. Jeter, Class of 1925. The eneficiary of the scholarship shall be selected based on the attributes of bility, character, temperament, and personality that are in accord with ıe high standards of The Citadel. Awards will be equally divided etween cadets engaged in a pre-medical academic program and cadets ho are participating in the intercollegiate football program.

The Colonel Robert Coleman Jeter Scholarship, was established in 987 by a bequest of Mrs. Mary Fant H. Jeter. The beneficiary of the cholarship shall be selected based on the attributes of ability, character, mperament, and personality that are in accord with the high standards of The Citadel. Awards will be equally divided between the academic and athletic programs of the college.

The A. John Knebel and Annie Dadin Knebel Scholarship Loan Fund was established in 1983 through a bequest from the will of the late Annie Dadin Knebel. Rising seniors are given preference, but loans may be made to other cadets or entering students who demonstrate worthiness of such a loan.

The John Patrick Knox Scholarship was established by classmates in memory of John Patrick Knox, '69 who was killed in 1967. Award to be given every fourth year or each year that the interest reaches $300. Recipients shall be incoming cadets.

The Charles A. Laffitte Memorial Scholarship fund was originally established by the late Colonel Charles A. Laffitte, Class of 1929 and member of the Board of Visitors, and his family. It was further increased by memorial gifts. The awards of $500 to $1,000 a year are made to residents of Allendale and Hampton Counties, and need is a major consideration.

The Law Engineering Scholarship was establishled by Mr. A.J. Glenn, III, P.E., Class of 1953. This $500 award is specified for a senior majoring in civil engineering and recommended by the head, Department of Civil Engineering.

The O. Harleston and Juliette M. Lesesne Scholarship, was established in 1987 by Dr. John M. Lesesne, Class of 1941. Selection of a recipient is based on the ability, character, temperament and personality that are in accord with the high standards of The Citadel.

The Freddie Levine Scholarship was established by funds contributed by friends of Lieutenant Freddie Levine, Class of 1955, who died in the service of his country. It pays up to $500 a year for four years to a student with demonstrated need.

The Broadus R. Littlejohn Scholarships were established in 1963 by Mr. Broadus R. Littlejohn, Jr., Class of 1949, in honor of his father. They pay up to $1,000 a year for four years.

The Albert I. Love Memorial Scholarship has a monetary value of up to $500 a year for four years. This scholarship is given to a worthy young man from Colleton County, South Carolina.

The Jacob Clyde Lybrand Memorial Scholarship was established by Mrs. Mamie G. Harley in memory of her late husband.

The David S. McAlister Scholarship was established in honor of olonel David S. McAlister in recognition of his many years of service to e athletic program at The Citadel. It pays an athlete up to $1,000 a year r four years.

The Gary Milton McCall, Jr., Scholarship was established in 1985 by r. and & Mrs. Gary Milton McCall, Sr., as a memorial to their late n. The scholarship is restricted to an incoming freshman from South arolina who has a demonstrated financial need. The recipient will ceive the scholarship for the following three years without further alifications except the requirement that he earn sufficient hours and ality points to be promoted to the next class level and that he maintain e character, temperament, and personality that are in accordance with e traditionally high standards of The Citadel.

The Robert F. McCrackan Scholarship was established by bequest of r. Walter B. Metts, '03 in memory of his classmate, Robert F. cCrackan, '03.

The Arthur Pierson McGee Scholarships were established by bequests om the late Colonel Arthur Pierson McGee, Class of 1908, and Mrs. cGee. They pay up to $1,500 a year for four years to a resident of uth Carolina, preferably one from Charleston or Dorchester Counties, ith athletic ability and financial need.

The Lieutenant Colonel Standley A. McGhan Memorial Scholarship, lass of 1962, was established in 1981 by his widow and family. It is stricted to an out-of-state student.

The William Darwin McConnell Memorial Scholarship was established a bequest from Mr. McConnell, Class of 1941. The scholarship is stricted to students from South Carolina.

The Colonel Richard Hugh McMaster Memorial Scholarship fund was tablished by a bequest from the late Major Richard K. McMaster in emory of his father, Class of 1894, and is restricted to a cadet from uth Carolina.

The Megonigal Scholarships were established by a bequest to The itadel. They have a monetary value of up to $500 for one year.

The Lewie G. and Grace M. Merritt Scholarship, was established by a queath of the late General Lewie G. Merritt, Class of 1917, who upon aduation entered the Marine Corps. He was a pioneer in Marine Corps iation and by 1942 was a brigadier general. After retiring with thirty years in the Marine Corps he was appointed the first director of the South Carolina Legislative Council, again demonstrating his patriotic and civil responsibilities.

The Dr. J.S.H. Metcalf Scholarship was established in 1986 by The Citadel's Biology Club. Preference shall be given to currentuly enrolled students who are rising sophomores, juniors, or seniors, are majoring in Biology; have a cumulative GPR of 3.0 or greater; are American citizens with demonstrated financial need; and are not Citadel Scholars.

The N.S. Meyer-Raeburn Scholarship, each year the Meyer-Raeburn Foundation contriutes $200 for a one year scholarship. No restrictions.

The Miscellaneous Scholarship, contributions made on a one-time basis and designated for scholarships are credited to this fund. Awards are made without restrictions.

The O. Ray Moore Memorial Scholarships are made possible by a bequeath to The Citadel Development Foundation by the late O. Ray Moore, Class of 1922. This fund provides three in-state and five out-of-state four year scholarships which pay the total expenses as listed in the catalogue. The first awards of these scholarships were made for the 1985 school year.

The Moore-Richards Scholarship was established in memory of the late Marion Latigue Moore, Sr., and Mrs. Jennie Patterson Richards Moore by members of their family. The scholarship is restricted to residents of Sumter and Kershaw Counties, South Carolina.

The Mark William Motley Memorial Scholarship has been established by his father. It pays $500 to an entering freshman, who has financial need, from the North Carolina, South Carolina, area.

The Mullen Premedical Scholarships, establsihed by Dr. Donald C. Mullen, Class of 1957, have a value of $500 and are awarded each year to one junior and one senior who are dedicated to becoming physicians, are in the top 25 percent of their classes, and have need.

The G. Morrison Myrick Scholarship, was established by friends and family of G. Morrison Myrick, Class of 1969.

The Dennis D. Nicholson, Jr., Scholarship is $1,400 a year for four years, supported by the income from a trust fund established by alumni in honor of Colonel Dennis D. Nicholson, Jr., Past Vice President for Development.

The Paul Trapier Palmer Scholarship, was established in 1986 by Stephen Palmer Dawdney, Class of 1967, restricted to members of the senior class who have financial need and who have attributes of character, temperament, and personality in accord with the high standards of The Citadel.

The Jack Page Memorial Scholarship is awarded each year to an outstanding junior or senior majoring in business administration. The scholarships pays $500 and is sponsored by the National Association of Accountants.

Milton A. Pearlstine Maritime Scholarship was established in 1983 by the South Carolina Ports Authority to honor Milton A. Pearlstine, Class 1919. The Peralstine Scholarship is restricted to students in business or related fields.

The Major General Harry K. Pickett Memorial Scholarships are made possible by a bequest of the late General Pickett, Ret., Class of 1911. These scholarships have a value of $1,000 a year for years. They are awarded to young men of high moral character, who are citizens of the State of South Carolina or sons of United States Marines.

The T.R. Pinson Scholarship was established in 1985 in memory of the late Thomas R. "Red" Pinson, Class of 1931, by his family and friends. Selection of a recipient will be based on possession of those attributes of ability, character, temperament and personality that are in accord with the traditionally high standards of The Citadel. A cadet with financial need and who is a Greenwood county resident will receive first preference. If none qualify, then a South Carolina resident will be considered.

The General Edwin A. Pollock Scholarship was established by the Beaufort Citadel Club and friends of General Pollock to honor this outstanding Citadel graduate, Class of 1921. The scholarship has a current value of $500 a year for an athlete from the State of South Carolina, and Beaufort County residents are given preference.

President's Honorary Scholarships are awarded each year to outstanding high school graduates and outstanding members of the current junior, sophomore, and freshman classes of The Citadel.

The John Douglas Prevatt Scholarship was established by the Francis G. Horne Foundation for an entering freshman in the upper 10 percent of his graduating class or with a minimum of 1200 on his SAT scores. This award pays all catalogue costs for four years. It is limited to students who are residents of North Carolina or South Carolina and are majoring in biology, chemistry, mathematics, or physics. Students majoring in other disciplines but who clearly intend to pursue a career in medicine will be considered. This scholarship is not open to athletes but musical ability is an asset.

The Captain Anthony G. Prior Scholarship was established in memory of Captain Prior, Class of 1964, who lost his life in the service of his country in Vietnam. It is awarded to a needy young man with a strong desire for a military career. The value is up to $500 a year for four years. A "C" average student will be considered, and preference will be given to a student from the eastern United States.

The Razor Memorial Scholarship was established by Mr. Melvin D. Verson, Class of 1948, as a memorial to the late Colonel Charles T. Razor. The scholarship is restricted to electrical engineering majors, preferably from Illinois or Texas.

The Jesse Timothy Reese Memorial Scholarship was established by Mr. Jesse T. Reese, Jr., Class of 1934, and Mrs. Reese in memory of his father, Class of 1904. This scholarship pays up to $500 a year for four years and is limited to entering freshmen from South Carolina.

The Frances and Tandy Rice Scholarship was established by Tandy C. Rice, Jr., Class of 1961, in honor of his parents. The scholarship pays up to $1,000 a year to an outstanding premedical junior or senior.

The Tancy C. Rice, Jr., Scholarship was established by Jerry Clower in honor of Tandy Rice, Class of 1961.

The Joseph P. Riley, Sr., Scholarship was established by Mr. and Mrs. Riley to be awarded each year to a needy Citadel Student from the Charleston area.

The Richard H. Rogers Scholarship, was established by contributions at the death of Major Richard H. Rogers, Class of 1965. Awards are made without restrictions.

The David Rubenstine Scholarship — Mrs. Rubenstine makes annual contributions in memory of her husband. Contributions awarded as one year award.

The Anne Seignious Memorial Scholarship was established by the Class of 1942 in memory of Anne Ficken Padgett Seignious, wife of Lieutenant General George M. Seignious, II, Class of 1942, president of The Citadel at the time of her death. The award pays $1,500 a year for four years to a prospective member of the Corps of Cadets.

The George M. Seignious, II, Scholarship is $2,000 a year for four years and is supported by the income from a trust fund established by alumni in honor of Lieutenant General George M. Seignious, Past President of The Citadel.

A Major Richard H. Schmidt Memorial Scholarship Fund was established by members of Major Schmidt's family. Major Schmidt, Class of 1952, was killed in action in Vietnam. Need is the deciding factor in naming the recipient.

The Society of American Military Engineers Scholarships are valued at $250 and are awarded each year to one rising senior and one rising junior who are members of The Citadel Chapter, S.A.M.E.

The South Carolina Electric and Gas Company Scholarship is $750 and is awarded to an outstanding student from South Carolina.

Dr. Thurman Councel Sparks Scholarship, established by a bequest of Mrs. Sparks in memory of her husband. Recipients shall be worthy and needy South Carolina high school graduates with preferences given to inmates of orphanages. Amounts shall be sufficient to pay one year's tuition, room and board, and purchase books and uniforms. Awards are made on a one year basis, but may be renewed.

The Spivey Memorial Scholarship pays $1,200 a year for four years. It is restricted to students from Horry County, South Carolina, who have financial need.

The D. Allen Spivey, Bayliss L. Spivey, and Collins A. Spivey Scholarship, was established by Collins Alexander Spivey, Sr., Class of 1926 and Collins Alexander Spivey, Jr., Class of 1960. Awards are not to exceed one half (1/2) of the catalogue cost of the recipient and the recipient must be a South Carolina resident with preference given to qualified applicants from Horry County. Awards are made on a one year basis, but may be renewed.

The Rufus J. Sprott Scholarships were established by Mrs. Sprott in honor of her late husband, Rufus J. Sprott, Class of 1923. They pay $500 a year and are restricted to cadet residents of South Carolina.

The Star of the West Scholarships were awarded for the first time in 1952. They cover all college expenses, as outlined in the catalogue, and are supported by the income from an anonymous trust fund. These scholarships are available only to students of outstanding ability and attainment and are not restricted by considerations of financial need or geographical limitations.

The William K. Stewart, Jr., and Mary Lee B. Stewart Scholarship was established by William K. Stewart, Jr., Class of 1932, and Mrs. Stewart. Consideration for his scholarship is restricted to Band members who can read music; play a brass, wind, or woodwind instrument; have need; and are not South Carolina residents. Preference in order will be given to residents of the city of Wilmington, North Carolina, eastern North Carolina, or the state of North Carolina. If none of the preferences can be met, any Band member who is not a resident of South Carolina may be considered. A freshman may be considered based on the above criteria and the student's band experience in high school.

Sumter Guards Scholarship was established in 1985 by the Sumter Guards, a corporation organized and existing under an act of the General Assembly of the State of South Carolina. Awarding of his scholarship will be based on financial need and shall be made to persons whose ability, character, personality and temperament conform with Citadel traditions. Preference, in order, will be given to members who have one year in the active company known as the Sumter Guards, sons of members, sons of former members, members who have been active less than one year, members of National Guard units of the Charleston area, residents of Charleston who agree to join the active Sumter Guards, National Guardsman throughout state of South Carolina, or any resident of the Greater Charleston area.

The Summerall Scholarship is supported by the income from a trust fund established by alumni as a memorial to the late General Charles Pelot Summerall, President of The Citadel, 1931-1953. This scholarship is worth $3,000 a year for four years.

The Oscar N. Taylor Scholarship was established by a bequest from Colonel Taylor, Class of 1919, and Mrs. Taylor. The scholarship has a monetary value of $1,500 a year for four years.

The Edgar A. Terrell Scholarships are worth from $500 for one year to $1,000 a year for four years. They were made possible by a donation from the late Mr. Edgar A. Terrell, Class of 1915, and are limited first to candidates from Mecklenburg County, North Carolina, and then to candidates from the State of North Carolina.

Thomas Jefferson Political Science Scholarship has a monetary value of $1,000 and is awarded each year to an outstanding senior majoring in political science. This scholarship is awarded by the National Society, Southern Dames of America.

The Hugh Smith Thompson Scholarships were established by Mr. William G. Thompson in memory of his grandfather, Hugh Smith Thompson, Class of 1856. Awards are made to non-athletes who have demonstrated needs.

The Captain William Thomson Scholarships were established by a bequest from Captain Thomson. The scholarships pay from $500 for one year to $1,000 a year for four years. Preference is given to students of Scottish descent.

The Dr. Thaddeus A. Timmons Scholarship was established by the family of Dr. Thaddeus A. Timmons, '28. Recipient should be a pre-medical major.

The James Ripley Westmoreland Scholarship has a value of $500 a year for fours. This scholarship is to aid worthy South Carolina young men who are in need of financial assistance to obtain a college education. This scholarship is in memory of Colonel James Ripley Westmoreland, a graduate of the Class of 1900, who served as chairman and a member of the Board of Visitors for many years.

The Louis F. Weyand Scholarship, was established by bequest of Louis F. Weyand.

The Edward Zimmerman White, Jr., Scholarship was established by a gift from daughters of Edward Zimmerman White. Recipients shall be senior business majors who are South Carolina residents. Preference will be shown to residents to Spartanburg County.

The George Walker White Scholarship, was established by Mrs. Robert N. Garrison and Mrs. J. Boyd Strawn, daughters of George Walker White, Class of 1904—who was the son of Major James Benjamin White, past superintendent of The Citadel. The scholarship is awarded annually to the rising senior civil engineering student who best exemplifies the qualities of a potentially outstanding civil engineer.

The Raymond F. Whitby, III, Scholarship was established in 1979 as a memorial to Captain R.F. Whitby, III '70.

The R. A. Whitney Scholarship was established by Mr. and Mrs. Whitney. It pays $1,000 a year to needy cadets from Beaufort County, South Carolina.

The Michael J. Worthy Scholarship was established by Mr. and Mrs. Fred Worthy in memory of their son. This scholarship is open to young men who are of American Indian descent.

The Judge C. C. Wyche Scholarships are made possible by gift from the late Judge C. C. Wyche of the Class of 1906 and are restricted to male student from South Carolina.

Private Scholarships

There are numerous scholarships of this type. Applicants must apply directly to the individual or organizational donors.

These scholarships are usually highly restricted as to geographical area, employment, and other criteria. It is suggested that the student consult with his high-school counselor, parent's employers, minister, or city-county officials for information on education foundations to which he might apply.

For further information, write:
Scholarship Committee
The Citadel
Charleston, S.C. 29409

Application Deadline

The deadline for receipt of completed scholarship applications is January 15.

Restricted Scholarships

Restriction	*Name*
California	Des Champs
Illinois of Texas	Razor (E.E. major)
Indiana	Dunning Gutierrez
New England	Aiken
North Carolina	Dosher (New Hanover or Brunswick Cos. pref.) Terrell (Mecklenburg Co.)
North or South Carolina	Prevatt (Biology, Chemistry, Math, Physics)
Out-of-State	Eubanks McGhan
South Carolina	Altman Bagnal Croch-Lee Holliday

Restriction	*Name*
	Jackson (Sophomores)
	McConnel
	McMaster
	O. Ray Moore
	Pickett
	Reese
	Westmoreland
	Wyche
	Citadel Scholars
	O. Ray Moore
	South Carolina Electric and Gas
	Rufus J. Sprott
Marines	Ayers
	Dusenbury
	Pickett
Band	Thomson
	Stewart
S.C. Counties	
Allendale	Laffitte
Anderson	Estes
Beaufort	Pollock (Athlete)
	Whitney
Berkeley	Ayers
Colleton	Love
Charleston-Dorchester	McGee
	Riley
	Exchange
Dillon	Dillon County
Greenville	Estes
	Hood
	Greenville-Piedmont
	Hipp

Restriction	*Name*
Greenwood	Adams Alexander Pinson Benson (Athlete)
Hampton and Adjoining	Bowers Laffitte
Horry	Spivey
Kershaw-Sumter	Moore-Richards
Orangeburg	Bryant
North Charleston area	Motley
Summerville	Compton
By Majors:	
Biology	Metcalf
Business Administration	Benson-Mezell Page Pearlstine
Chemistry	Hatch Prevatt
Civil Engineering	White S.A.M.E. American Public Works Law Engineering
History	Eubanks
Physics	Prevatt
Premedical	Frances and Tandy Rice Mullen
Political Science	Thomas Jefferson
Athletic	Benson-Mizell McAlister Pollock
Electrical Engineering	Razor

Financial Aid

The purpose of student financial aid is to enable qualified students to attend The Citadel.

Any student who applies for admission to The Citadel is eligible to equest financial assistance. If he is offered admission and if he demonstrates a financial need, The Citadel will attempt to meet that estimated need.

In administering the aid program, it is assumed that a student and his amily will furnish from their own resources that amount they can easonably be expected to contribute toward college costs. If a student's amily is financially stable enough to meet all educational costs, no inancial aid will be offered the student. However, if a family cannot meet ll costs, the financial aid office will attempt to offer, in behalf of the ollege, the amount of help which the student needs. Individual awards ange from $200 to more than $3,500, depending upon a family's ability o contribute toward its son's expenses.

Financial Need

For programs which require that financial need be determined, The Citadel requires parents of all applicants to complete and submit a confidential Financial Aid Form (FAF) to the College Scholarship Service.

Entering freshmen should obtain the Financial Aid Form through their ocal high schools. Cadets should direct their requests to the financial aid office.

Application Deadline

All aid applications for the academic year beginning in August should be received by the financial aid office by March 15. Those received after his date will be considered only if funds are available and then by date eceived.

Satisfactory Progress

All students on aid must be making satisfactory progress toward completing graduation requirements (see Academic Probation and Discharge under Academic Policies of this catalogue).

All students receiving aid while on academic probation will b considered for renewal only when the academic probation has bee cleared. This policy includes Guaranteed Student Loans and Federall Insured Student Loans.

Satisfactory progress also applies to Evening College students.

Validation

Institutions are required by law to verify certain data provided by th student and parents before aid can be granted to the student. The basi document used in verification is the student's and parents' Federal Incom Tax Return. In some cases, students will be asked to provide additiona information which the Financial Aid Office will specify. If the student' data is selected for validation, a complete copy (all pages) of his and hi parents' Federal Income Tax Return should be signed and forwarded t the Financial Aid Office.

Loans and Grants

The Citadel participates in the Perkins Loan (National Direct Studen Loan Program), Supplemental Educational Opportunity Grant Program Pell Grant Program, Work-Study Program, the Guaranteed Loa Program, and PLUS Loan Program. To be eligible for aid through thes programs, a student must be accepted for admission to The Citadel. I awarding aid under these or other programs, there is no discriminatio because of race, creed, color, or national origin. All terms of federa programs are subject to change based on law and regulation changes.

Perkins Loan
(National Direct Student Loan)

Both currently enrolled students and new students who have bee accepted for admission may apply for these loans. To be eligible fo favorable consideration, applicants must establish financial need and giv evidence of likely academic success.

To assist in determining financial need, The Citadel requires th parents of all applicants to complete the Financial Aid Form (FAF published and analyzed by the College Scholarship Service. The Citade holds membership in the College Scholarship Service.

A qualified student with demonstrated financial need may normall borrow up to $1,500 per academic year. The interest rate of 5 percent is charged on these loans after the repayment period begins (six months after the student ceases to attend an institution of higher learning). If he enters the armed forces, VISTA, or the Peace Corps, he may apply for a deferment of payment, and his repayment begins at the conclusion of his deferment period. If the student enters certain teaching fields or serves in an area of hostilities with the armed forces, his loan may be cancelled on a scheduled basis. A minimum repayment of $30 per month will be required. Repayment of a National Direct Student Loan is made to Wachovia Services, Inc., P.O. Box 3176, Winston-Salem, N.C. 27102.

Supplemental Educational Opportunity Grant Program

The Citadel participates in the Supplemental Educational Opportunity Grant Program as established under Title IV, Part A, of The Higher Education Act of 1965, Public Law 89-319, as amended. This program provides assistance to eligible, qualified high school graduates who have inancial need.

Grants will be awarded to a student meeting each of these criteria:

—is a citizen of the United States, or is in the United States for other han a temporary purpose and intends to become a permanent resident hereof;

—has been accepted for enrollment as an undergraduate student or is n good standing and is attending an undergraduate institution;

—shows evidence of academic or creative promise and capability of maintaining good standing in his course of study;

—has financial need, as determined by the institution in accordance with criteria and schedules prescribed by the commissioner, taking into account such factors as the number of dependent children and income and assets of the student's family.

Pell Grant Program

The Pell Grant Program is the newest of the federally funded ducational programs. A student demonstrating financial need will be ntitled to a grant ranging from $200 to $2,100. Entering students should ontact their high schools for detailed information. Presently enrolled tudents should contact the financial aid office. All students who apply or aid must also apply for the Pell Grant. Application can be made by hecking item 43 of the Financial Aid Form.

College Work-Study Program

Students participating in this program have an opportunity to earn par of their college expenses. The Work-Study Program makes jobs availabl to students at the minimum hourly work wage. Payment will b bimonthly.

The Guaranteed Loan Program

In addition to the loan application, the student must file a Financia Aid Form. No action can be taken on the application until the nee analysis from this form is received.

South Carolina Student Loan Corporation (In-State Students)

A South Carolinian, through this program, may borrow up to $2,625 year to be used toward the expenses of a post-secondary education Applicant must qualify for federal interest subsidy while he is in school For information and application write: South Carolina Student Loa Corporation, P.O. Box 21487, Columbia, S.C. 29221. Application mus be filed no later than July 1 for fall semester and November 1 for sprin semester.

State Guaranteed Loans (Out-of-State Students)

Because of the diversity in regulations governing the program, student and parents interested in their state program are urged to write fo information to the State Board of Education, Higher Education Assistance Authority, or similar agency in their home states. The address i available through your high school.

PLUS (Parents') Loan

The PLUS Program was established to ease the financial burden tha the costs of post-secondary education place on many families, particularl the middle-income families who generally do not qualify for other form of financial assistance and who may not have the savings or other liqui assets available to make a single lump sum payment for college costs Loan funds may be used only to pay for student's educational costs.

To be eligible, you must be:

—The mother, father, legal guardian, or adoptive parent of *dependent undergraduate* student who is enrolled in good academi standing or accepted for enrollment in an eligible post-secondary schoo on a full-time basis, and

—a United States citizen or have filed a declaration of intent to become a citizen, and

—need financial assistance to pay school costs.

The interest rate for PLUS loans is actually dependent upon the average of the ninety-one day Treasury Bill rates. The applicable interest rate for all PLUS loans is currently 12 percent per year. As long as the average of the ninety-one day Treasury Bill is equal to or less than 14 percent over any 12-month period, the interest on PLUS loans shall remain at 12 percent.

For each loan you receive, you must pay a mimimum of $720 per year ($60 per month) which will normally be arranged over 5 to 10 years. You may choose to accelerate repayment at any time without penalty. Examples of repayment schedules are provided in the application instructions.

George M. and Texie A. Young Stackhouse Memorial Loan Fund

The generosity of the trustees, Hazel S. Stackhouse, Dr. Carl P. Parker, Jr., and the late Will Stackhouse, Jr., who served the trust faithfully during his lifetime, has made it possible to establish the George M. and Texie A. Young Stackhouse Memorial Loan Fund.

Through this program, loans will be made to needy, deprived, and deserving students. The interest rate is 9 percent simple and repayment begins six months after graduation or other disenrollment from the college for any reason. A minimum repayment of $50 per month will be required. Loans will be secured with a note and the signing of the American Creed which pledges loyalty to the United States.

Citadel Development Foundation Loan

Through The Citadel Development Foundation, money is made available for a number of loans each year. These loans are made to students who are financially needy. The interest rate is 9 percent simple, and repayment begins six months after graduation or after disenrollment from the college for any reason. A minimum repayment of $50 per month will be required. Loans will be secured with a note.

Citadel Development Foundation Grant

The Citadel Development Foundation provides money to be used for grants to needy students. These grants range from $100 to $2,000.

ROTC Scholarships

Army, Naval, and Air Force ROTC scholarships, which provide $100 a month and cover tuition, college fees, books, and supplies, are available to high school seniors. Application should be made early in the senior year of high school, preferably by October 30. For further information write the appropriate military department at The Citadel.

Veterans Benefits

Veterans and the children of deceased or disabled veterans who meet regular admission requirements may be eligible for educational benefits under Public Laws 894, 87-815, or 643. Preliminary application for such benefits must be made to the nearest Regional Office of the Veterans Administration well in advance of the anticipated admission date so that the necessary details and documents may be obtained. Applicants should notify The Citadel's veterans affairs office of his intent to enroll and request that his attendance be certified with the VA.

It is the veteran's responsibility to notify both the VA Regional Office and veterans affairs office of any change in his program. Also, it is the veteran's responsibility to certify his class attendance to the veterans affairs office during the week of the 25th of each month. This is accomplished by completing a certification card available at Room 200, Bond Hall. *Failure to certify attendance will terminate benefits.*

Under new VA regulations, a student must be making normal progress toward completion of his degree. Because of this, any student receiving VA benefits who withdraws from a course after the free drop period will be given a punitive grade for the course.

Commercial Loan Programs

For parents who prefer to pay their educational expenses in monthly installments, names and information on private loans will be forwarded upon request.

Information and Applications

Further information about financial aid programs at The Citadel and application forms should be requested from the Financial Aid Office, The Citadel, Charleston, S.C. 29409.

Sample Repayment Schedules

PERKINS LOAN
(National Direct Student Loan)

Principle Amount = $10,000
nterest Rate = 5 percent
Payments per year = 12

Amount Borrowed	No. of Monthly Payments	Monthly Payment Amount	Finance Charges	Total to Be Repaid
$ 1,000	36	$ 30.00	$ 78.67	$ 1,078.67
$ 1,500	57	$ 30.00	$ 185.26	$ 1,685.26
$ 2,000	79	$ 30.00	$ 347.45	$ 2,347.45
$ 2,500	103	$ 30.00	$ 576.62	$ 3,076.62
$ 3,000	119	$ 32.12	$ 807.11	$ 3,807.11
$ 3,500	119	$ 37.47	$ 941.81	$ 4,441.81
$ 4,000	119	$ 42.82	$1,076.52	$ 5,076.52
$ 4,500	119	$ 48.17	$1,211.32	$ 5,711.32
$ 5,000	119	$ 53.53	$1,345.74	$ 6,345.75
$ 5,500	119	$ 58.88	$1,480.49	$ 6,980.49
$ 6,000	119	$ 64.23	$1,615.27	$ 7,615.27
$ 6,500	119	$ 69.58	$1,749.99	$ 8,249.99
$ 7,000	119	$ 74.94	$1,884.43	$ 8,884.43
$ 7,500	119	$ 80.29	$2,019.19	$ 9,519.19
$ 8,000	119	$ 85.64	$2,153.84	$10,153.84
$ 8,500	119	$ 90.99	$2,288.64	$10,788.64
$ 9,000	119	$ 96.35	$2,423.07	$11,423.07
$ 9,500	119	$101.70	$2,557.77	$12,057.77
$10,000	119	$107.05	$2,696.57	$12,692.57

CITADEL DEVELOPMENT FOUNDATION AND STACKHOUSE LOANS

Principal Amount = $500
nterest Rate = 9 percent
Payments per year = 12

Number of Payments	Principal Balance	Interest	Principal Payment	Payment
1	$500.00	$ 3.75	$ 46.25	$ 50.00
2	453.75	3.40	46.60	50.00

3	407.15	3.05	46.95	50.0
4	360.20	2.70	47.30	50.0
5	312.90	2.34	47.66	50.0
6	265.24	1.98	48.02	50.0
7	217.22	1.62	48.38	50.0
8	168.84	1.26	48.74	50.0
9	120.10	0.90	49.10	50.0
10	071.00	0.53	49.47	50.0
11	021.53	0.16	21.53	21.6
	Totals	$21.69	$500.00	$521.6

Department of Student Activities

Student activities are those in which students are involved when outside the classroom. Their purpose is to provide for each student the opportunity to broaden his talents in areas of his liking and capability.

Mark Clark Hall

The department's offices and many of the student activities are housed in Mark Clark Hall, which serves as the student union building. Named after General Mark W. Clark, it has been in use since 1958.

On the first floor are a reception room, canteen, gift shop, post office, bowling alleys, and a game room. The department's offices are on the second floor along with the office of the chaplain to the Corps of Cadets, a TV room, an auditorium, the alcove lounge, a kitchen, the veterans lounge, and two meeting rooms. On the third floor are staff workrooms for student publications, Catholic chaplain's office and chapel, the Episcopal chaplain's office, the honor court room, a photographic darkroom, and nine guest rooms.

Beach Club

The Colonel Robert R. McCormick Beach Club is on the Isle of Palms, about a half hour's drive from the campus. It is a functional two-story clubhouse, built on a five-acre tract overlooking the Atlantic Ocean. Quarters are provided for the resident custodian, in addition to a bathhouse, a large ballroom, kitchen, and screened porch. Outside barbecue and grill areas are provided, as well as shuffleboard courts and areas for volleyball and horseshoes. The grounds are floodlighted to facilitate evening parties. Food and beverages are sold on weekends at the Beach Club during the warm weather months. A sheltered picnic area is also available.

College Social Director (Hostess)

The Citadel hostess serves as social advisor for students. Her office is located in the reception room of Mark Clark Hall. Under her supervision, various cadet committees are formed to plan formal and informal socials, the Miss Citadel contest, and other activities. She keeps the reception room open and maintained in good taste for the use of cadets and their guests from 8:30 a.m. to 5 p.m. daily. The hostess can assist in finding off-campus housing for summer school and special students. The hostess maintains an open-door policy and is always willing to assist students in any way possible.

Fine Arts Series

Inaugurated in 1965, the Fine Arts Series has presented annually a wide variety of programs which have been both entertaining and instructive. There are usually five programs presented during the academic year. Included among past performances have been opera singers, musical ensembles, soloists, traditional dance groups from around the world, Shakespearean plays, dramatic presentations, and mime.

Social Events

All Citadel dances are under the sponsorship of the Standing Hop Committee, an organization selected from the three upper classes. Its duties are to select bands and coordinate all plans for the hops.

Citadel hops highlight the social activities of the college. As dances are strictly for and by students, few invitations are issued outside The Citadel. The formal hops held annually are the Homecoming Hop, Ring Hop, and the Corps Day Hop. Although these dances are formal, by tradition corsages are not worn by dates. Informal dances and parties are normally held at The Citadel Beach Club.

Publications

The Brigadier, published by a staff of students, serves as the campus newspaper. Ten issues are published each semester.

The Sphinx, the college yearbook, is pubished annually by a staff of students. This publication serves as a semiofficial record of the year.

The Shako, the literary magazine, is published twice a year.

The Guidon, the cadet handbook, is published annually by a staff of cadets. The handbook contains a complete description of the activities of the college, college history, customs, and duties and responsibilities of cadets, plus other phases of cadet life. It is particularly helpful to entering freshmen. It is mailed to incoming freshmen early in the summer and distributed to other students at the beginning of the college year.

The Student Directory, published in the fall of each year by a student staff of Tau Beta Pi (National Engineering Honor Society), lists names and home addresses of all students at the college.

Financed by allocations from student activities fees, all publications are distributed to all students at no additional charge.

Musical Organizations

The cadet orchestra, known as "The Bulldog Orchestra" furnishes music for the ring ceremony, informal dances, the Talent Show, and the Spring Music Festival.

The Citadel Cadet Chorale and the "Original Thirteen" are vocal groups which sing all types of musical arrangements.

The Citadel band provides music for parades, reviews, and other official ceremonies. The Citadel Bagpipers are an integral part of the Band.

The Citadel "Pep Band" is a group of musicians from within The Citadel Band that performs at Citadel basketball games.

Boating Center

The Citadel Boating Center membership consists of all members of the student body, faculty, and staff. There are no dues connected with the membership, and preference is given to students in the use of the center's facilities.

The club fleet consists of a 73-foot motor yacht, small sailboats, and outboard motorboats, all available to students.

Boating Center facilities consist of a clubhouse, dockage, marine railway, sail loft, and work area for maintenance and repair of small boats. Storage of privately owned boats is available for a small fee.

Clubs and Societies

Membership in a wide variety of clubs, societies, and other organizations is available to all students. Among these are literary and discussion groups, professional societies, military organizations, and recreational clubs. The span of these activities is so broad and so varied that every student should find an organization that fits his interests and talents.

Department of Intercollegiate Athletics

The mission of the Department of Athletics at The Citadel is to develop, maintain, and continue to improve a well-rounded program of athletics geared to the aims and objectives of The Citadel, the Southern Conference, and the National Collegiate Athletic Association.

The Citadel is a member of the NCAA with Division-AA classification in football, and Division I in all other sports. In addition, the college is a member of the Southern Conference, which is comprised of Appalachian State University, The Citadel, Davidson, East Tennessee State University, Furman University, Marshall University, University of Tennessee at Chattanooga, Virginia Military Institute, and Western Carolina University.

The Sports Program

The Citadel athletic program offers opportunities for competition in all sports in which the Southern Conference declares champions. Competent and qualified coaches are employed, adequate facilities are maintained, and well-equipped and supervised trainers and training facilities are provided to achieve these aims. A well-balanced, diversified program is provided within the framework of the educational program as a whole.

In Southern Conference competition, The Citadel has established a winning tradition and has maintained accumulative winning records. Through the years, the list of All-State, All-Conference, and All-American selections has been impressive.

The Department of Intercollegiate Athletics sponsors 11 varsity teams. A cadet-athlete can choose to compete in football, basketball, cross-country, soccer, rifle shooting, wrestling, indoor track, outdoor track, baseball, golf, and tennis. Each year, more than 600 cadets participate as players, managers, or student trainers.

The Citadel, under NCAA and conference regulations, maintains a grant-in-aid program which helps keep cadet teams competitive in the Southern Conference.

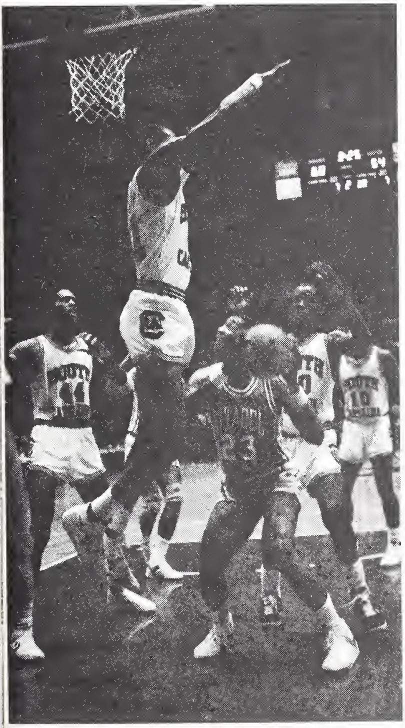
Facilities

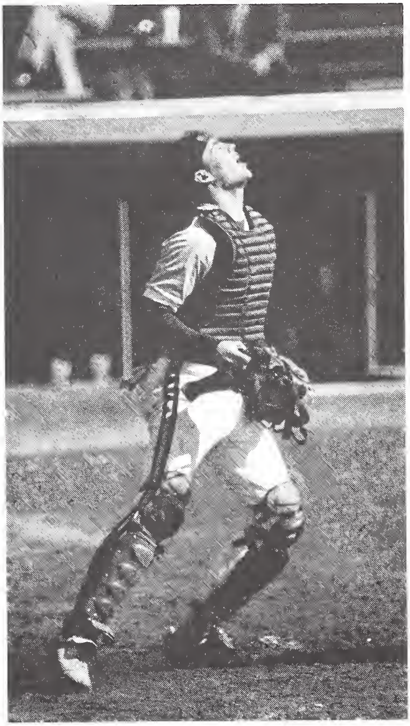
Athletic facilities at The Citadel are among the best in the conference. Home football and soccer games are played in Johnson Hagood Stadium, which seats more than 22,000 spectators. Seignious Hall, a modern two story building, contains a large medical training room for all sports, laundry room, workout room, and offices and meeting rooms. Other indoor facilities include an indoor rifle range and a well-equipped wrestling practice area.

McAlister Field House is currently undergoing major renovations that will provide approximately 7,000 seats, new locker rooms, new seating, new offices and a complete modernization that will result in making McAlister Field House one of the finest athletic facilities in the southeast.

Outdoor facilities for practice and competition include six all-weather composition and four Laykold tennis courts, a quarter-mile all-weather track, and four practice fields for football and soccer.

Baseball games are played in College Park baseball field, a large lighted baseball stadium adjacent to The Citadel campus.





Honors and Awards

The Palmetto Award

This award is made by the Board of Visitors in recognition of exceptional performance which reflects great credit on The Citadel or the State of South Carolina. It is to be made to a member of the Corps of Cadets, alumni, faculty, or staff of The Citadel, or any other person whose service to the college or state is deemed worthy of consideration. Members of the Board of Visitors, the President of The Citadel, or the Association of Citadel Men may take nominations for candidates for this award, but recipients must be unanimously approved by the Board of Visitors. This award takes precedence over all other honors awarded by The Citadel with the exception of honorary degrees.

Commencement Honors

The first two commencement honors for students reflect the reputation of the recipient while he was a student at The Citadel and are thus restricted to those graduates who have earned (and are employing to satisfy graduation requirements) a minimum of 90 semester hours at The Citadel.

The Algernon Sydney Sullivan Awards are bronze medallions presented by the college, through the benefaction of the New York Southern Society, to students or others in recognition of high thought and noble behavior. Established by the Society in 1925, the awards have been made to The Citadel since 1933.

The John O. Willson Ring. The bequest of Dr. John O. Willson, a ring is given annually to the cadet member of the senior class voted by his classmates as the manliest, purest, and most courteous member of the class.

All other commencement honors are academic in nature and are open to all graduates who have earned at The Citadel a minimum of one-half the semester hours prescribed in their major course of study. In selecting the recipient of the Scholarship Medal and in determining who will earn their degrees with honors, a true grade-point ratio will be determined.

This ratio will reflect all undergraduate hours attempted, including hours repeated, at The Citadel or other institutions.

The Scholarship Medal is presented annually by the Board of Visitors, and the recipient is designated as the First Honor Graduate. This honor is restricted to those graduates who have earned (and are employing to satisfy graduation requirements) a minimum 90 semester hours at The Citadel and is awarded to the graduate whose overall grade-point ratio, calculated as described above, is highest among the graduating class.

A degree *summa cum laude* is awarded to those students in the graduating class who have achieved a grade-point ratio of 3.90-4.00 on all work taken at The Citadel and whose overall grade-point ratio, calculated as described above, is at least 3.90.

A degree *magna cum laude* is awarded to those students in the graduating class who have achieved a grade-point ratio of at least 3.70-3.89 on all work taken at The Citadel and whose overall grade-point ratio, calculated as described above, is at least 3.70.

A degree *cum laude* is awarded to those students in the graduating class who have achieved a grade-point ratio of at least 3.50-3.69 on all work taken at The Citadel and whose overall grade-point ratio, calculated as described above, is at least 3.50.

The following commencement honors are based solely on work done at The Citadel.

Departmental Honors are awarded on recommendation of heads of departments to those students of the graduating class who have established a grade-point ratio of 3.50 or better in at least 36 hours of work in their major department. This must include all departmental work required in the junior and senior years.

Academic Honors and Awards

Phi Kappa Phi is the only national honor society whose membership is open to scholars of all academic disciplines. Membership in The Citadel Chapter of The Honor Society of Phi Kappa Phi is limited to those undergraduate students who rank scholastically in the upper 4 percent of the junior class or in the upper 8 percent of the senior class. Any member of the faculty whose scholastic record and/or outstanding achievement has rendered him worthy of membership may be extended an invitation to join.

The Dean's List is a recognition given to those students registered for 12 or more semester hours whose grade-point ratio is 3.20 or higher, with no grade below C, for the work of a semester. Medals are awarded and worn on uniforms the following semester.

Gold Stars are awarded to those students on the Dean's List who have made a grade-point ratio of 3.70 or higher for the work of a semester. Stars are worn on the collar of the uniform during the following semester.

The American Legion ROTC Scholastic Excellence Awards are presented to Army, Navy and Air Force ROTC firstclassmen and secondclassmen who have demonstrated outstanding scholastic excellence.

The Francis Marion Award is presented by the Rebecca Motte Chapter, D.A.R., to a cadet of the graduating class for outstanding achievement in American history.

The Granville T. Prior Award consists of key and scroll presented annually by The Citadel History Club to the student whose senior research project is selected by a joint faculty committee as the best in the Departments of English, History, and Political Science.

William E. Mikell Award, a cash award donated by the late William E. Mikell, is awarded to that member of the graduating class having the highest average in English over a three-year period.

The Wall Street Journal Student Achievement Award is donated by the *Wall Street Journal* and awarded to the student having the greatest achievement in business administration during the school year.

The Charles P. Summerall Cup is donated by the European Citadel Association and awarded annually for one year to the company of cadets with the best academic achievement. Companies are rated on the average grade-point ratio (GPR) for each semester plus a factor to reflect the increase or decrease in GPR from first to second semester.

Post-Courier Awards are given by the *Post-Courier* to the best writers on *The Brigadier* staff as chosen by a committee of faculty and staff members.

The Peter Gaillard Memorial Award is given annually by Colonel and Mrs. St. Pierre Gaillard in memory of Peter Gaillard of the Class of 1948 to a graduating firstclassman majoring in Electrical Engineering on a basis of scholastic attainment, leadership, and participation in extracurricular activities.

The Charles T. Razor Memorial Award is given annually in memory f Colonel Charles T. Razor to a graduating cadet selected by the head f the Department of Electrical Engineering on the basis of scholastic chievement, ability, and willingness to help others.

The Colonel Louis Shepherd LeTellier Award is given annually to a ıember of the graduating class attaining the highest academic average in vil engineering.

The George Walker White Award is given annually by Mrs. James oyd Strawn and Mrs. Robert Neal Garrison in memory of their father, 'lass of 1904. This award goes to a member of the graduating class for utstanding achievement in civil engineering.

The Colonel Christopher Schultz Gadsden Memorial Award, in ıemory of Colonel Gadsden, Class of 1852, is given annually to the "best l-round Civil Engineering graduate" as selected by the Civil Engineering culty.

The Reuben Burton Pitts, III, Memorial Award is given annually in ıemory of Cadet Reuben Burton Pitts, III, Class of 1963, to the secondassman who is selected by his classmates as showing the greatest oncern for the well-being of other cadets.

The Carlisle Norwood Hastie Award is given annually to the gradating firstclassman who has been selected by his classmates as having ıown the most tact, consideration, and courtesy to his fellow students.

The Henry J. Taylor Cup is presented annually to the member of *The 'rigadier* staff who has demonstrated the greatest journalistic improveıent during the current school year.

The Colonel James K. Coleman Award is in honor of Colonel 'oleman, Class of 1919, who established the Department of Political cience at The Citadel. It is given annually by Pi Sigma Alpha, National olitical Science Honor Society, to the firstclassman in Political Science ith the highest scholastic record for the four years.

The H. L. Gary Award, consisting of a cash award and a certificate of ecognition, is granted annually to a graduating senior for outstanding chievement in European history.

The English Faculty Award, consisting of a cash award and a scroll, is iven by the members of the Department of English to an English major 'ho, during an academic year, has submitted an essay, short story, or oem of exceptional merit.

The George E. Reves Award is given annually in memory of Color George E. Reves. The award, consisting of a suitably inscribed de plaque for the recipient and the listing of the recipient's name on a plaq in the Department of Mathematics and Computer Science, is given to t Mathematics or Computer Science major selected by the Mathemati faculty on the basis of Mathematical ability and outstanding achievement

The Thomas Francis McGarey Award is a cash award given annual by Mrs. Miriam M. Favorite in memory of her father, Thomas Franc McGarey, Class of 1914, to the outstanding graduating firstclassman the field of natural science.

The Keith E. Hamilton Award is presented by the Physical Educatic faculty to the senior Physical Education major who has demonstrat outstanding academic achievement and potential growth.

The Morris, Duffey, and Boone Award, an embossed copy of *Black Law Dictionary,* is presented annually at the Lent Reading of The Citad Inn of Court for excellent in pre-law preparation and service to the Inn.

The Francis Eugene Zemp Award is given annually to the pre-medic student having the highest academic average. The award consists of plaque given to the recipient and the inscription of his name on tl master award plaque which is kept in Byrd Hall.

Military Awards

The Order of Cincinnati Award is presented annually to a cadet offic who has exemplified in the highest degree the qualities of soldier an citizen.

The Wade Hampton Saber is awarded annually by the South Carolin Division, Daughters of The Confederacy, to the member of the first cla who is most outstanding in leadership and who makes the greate contribution to The Citadel while a cadet.

Army ROTC Distinguished Military Student Program—Army ROT students whose proficiency in military training and whose qualities leadership and attention to duty have merited the approbation of tl professor of military science are designated Distinguished Milita Students. They are eligible to apply for appointment as second lieutenan in the Regular Army when they have registered for their last academ year.

The Association of U.S. Army Medal is donated by the Association of he United States Army and awarded annually to the outstanding Army ROTC secondclassman.

The Widder Award is presented annually by Mr. and Mrs. John D. Vidder, in memory of their son, Capt. David Widder, USA, Class of 959, to the outstanding Distinguished Military Student in Army ROTC.

The Washington Light Infantry Marksmanship Trophy and Medals onsist of a trophy awarded annually for one year to the organization vhose team makes the highest score in smallbore rifle marksmanship and nedals awarded annually to the cadets making the highest individual cores. All are presented by the Washington Light Infantry.

Distinguished Naval Students—During the fall semester each year the rofessor of naval science designates as Distinguished Naval Students DNS) those senior cadets in the Naval ROTC program who have splayed outstanding qualities in academics, leadership, adaptability to ilitary training, and sound moral character.

The United States Naval Institute Awards consist of a membership ertificate in the Naval Institute for a one-year period awarded to an utstanding NROTC regular cadet in the senior class and to an utstanding NROTC contract cadet in the senior class.

The Marine Corps Association Award consists of a certificate and embership in the Association for a one-year period awarded to the utstanding junior or senior Marine-option cadet who has displayed the ighest qualities of perseverance, integrity, motivation, and devotion to uty.

The Navy League Sword is awarded annually by the Navy League to e most outstanding cadet to be commissioned in the U.S. Navy or U.S. arine Corps.

Distinguished Air Force Students (DAFS)—During the fall semester ach year, the professor of aerospace studies designates as DAFS, those FROTC cadets of the first class who have displayed outstanding ualities of leadership, adaptability to military training, and academic chievement.

Air Force ROTC Distinguished Graduates—The professor of Aerospace tudies may designate as Distinguished Graduates those Air Force cadets vho possess outstanding qualities of leadership and have demonstrated hose qualities both in their academic classwork and military activities.

This designation is a factor that is considered for appointment in t Regular Air Force during the early years of the junior officer's career.

The Air Force Association Award is presented each year to t outstanding first class AFROTC cadet possessing outstanding leadersh characteristics. The winner of this award is also eligible to receive t Aerospace Education Foundation's *W. Randolph Lovelace Memor Award.*

The General Dynamics AFROTC Cadet Award is donated by Conva Division to a sophomore who has demonstrated outstanding qualities the AFROTC program.

The Air Force Historical Foundation Award is presented annually an AFROTC firstclassman in recognition of outstanding leadershi citizenship, academic and military achievement.

Air Force ROTC Awards—Citadel AFROTC cadets are very con petitive for other awards to include the *American Fighter Aces Awar* the *USAA Scholarship Award;* the *Virgil I. Grissom Memorial Schola ship Award;* and the AFROTC valor award.

The American Legion Army, Navy and Air Force General Milita Excellence Award is presented annually to a cadet in each of the first an second classes who has demonstrated outstanding qualities of milita leadership, discipline, character, and citizenship.

The National Defense Transportation Association Award is presente annually to an outstanding ROTC firstclassman majoring in busine administration, civil engineering, or political science.

The Society of American Military Engineering Award is awarde annually to a member of the first and second class who is majoring i engineering and has demonstrated outstanding academic achievements.

The South Carolina Reserve Officers Association Awards are donate annually by the Reserve Officers Association and awarded to the ou standing Army, Navy, and Air Force ROTC first, second, and third cla cadets for demonstrating courtesy, personal attributes, positive attitud and promotion potential.

The Daughters of the American Colonists Award is given annually t the firstclassman with the best disciplinary record during his four years a The Citadel.

The Armed Forces Communications and Electronics Associatio Awards are awarded annually to the outstanding Army, Navy, and Ai orce ROTC first and second class cadets majoring in Engineering, athematics, Chemistry, and Physics.

Sons of the American Revolution Awards are awarded annually to utstanding Army, Navy, and Air Force fourthclassmen on the basis of adership ability, soldierly bearing, and excellence in ROTC studies and ctivities.

The Daughters of the American Revolution ROTC Award is presented nnually to an outstanding graduating ROTC cadet selected for academic ccellence, leadership ability, adherence to military discipline, dependabil-y and good character, and a fundamental and patriotic understanding of e importance of ROTC training.

The Major William M. Hutson Award is presented annually by olonel and Mrs. J. C. Hutson in memory of their son, Major William . Hutson, USAF, Class of 1939, to a rising senior selected for utstanding leadership ability, academic standing, and devotion to duty.

The Commandant's Cup, donated by the late Colonel W. C. Miller, is warded annually to the best-drilled company.

The W. C. White Medal is presented annually by Mrs. W. C. White to e company commander of the best-drilled company.

The Kelly Cup, in memory of Captain Benjamin E. Kelly, Jr., USA, lass of 1961, is awarded annually to the squad winning the squad drill mpetition.

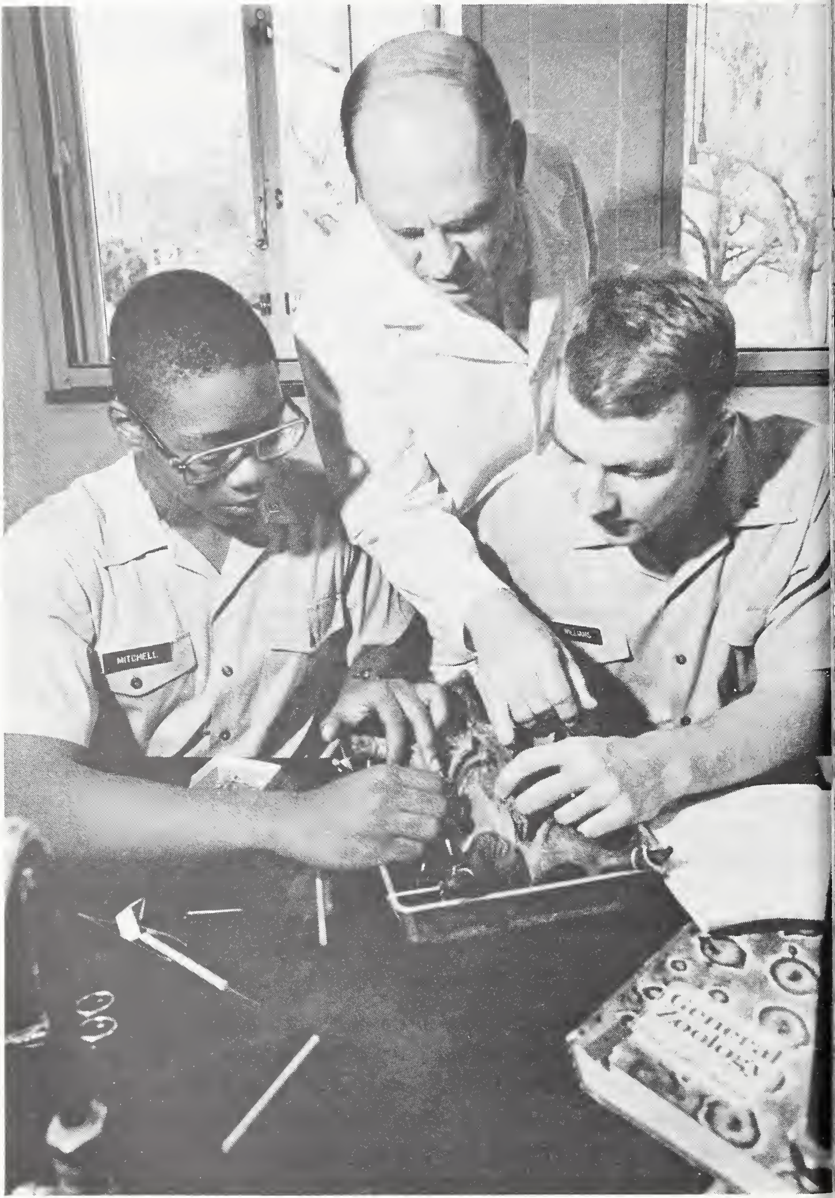
The Star of the West Medal, originally presented to The Citadel by Dr. B. . Teague, is awarded annually to the best-drilled cadet.

The Major General Lewie G. Merritt Memorial Award is presented nnually to an outstanding Marine option senior based on scholastic tainment, leadership, physical fitness, integrity, motivation and devotion. dditionally, he must be designated a Distinguished Naval Graduate by the rofessor of Naval Science. The award consists of life membership in the arine Corps Association with certificate.

Other Awards

Other prestigious awards for which Citadel cadets in Army, Navy, and ir Force ROTC can compete include: *The Legion of Valor Bronze ross for Achievement; The Military Order of World Wars Medal; The ational Sojourners Award; The American Defense Preparedness Asso-ation Ward;* and *The retired Officers Association ROTC Medal.*

The list of awards on the last several pages is not complete, but space precludes a full listing. Many other awards are given in recognition o military and scholastic excellence, as well as meritorious participation i cadet activities and athletics.


MITCHELL
General Zoology

Honors Program

The Citadel Honors Program is designed to provide for the unusually ell-prepared student an exceptionally broad background of cultural owledge and learning skills which the student can then apply to his chosen ea of academic specialization. The bulk of the Honors curriculum comes the first two years (in fact, over half of the total credit hours required by e Program come in the first year).

The emphasis in Honors courses is not primarily acceleration, but richment. The courses cover the basic material more quickly in order to ovide time for going into extra depth, examining more closely the gnificance and implications of the material studied, or viewing that aterial in a broader cultural context. In general, Honors courses use scussion more than lecture in order to establish habits of rigorous inquiry d intellectual independence. The plan behind the curriculum is to create environment of learning in which the students' intellectual habits can be rmed. The patterns and processes of intellectual and scholarly inquiry are ught, not merely the results of other people's having conducted that quiry.

In addition, a tutorial aspect is worked into each course; individual udents are scheduled to meet with their instructors frequently (once every eek or ten days) to discuss and develop on-going writing, research, and boratory projects.

The Honors Program is governed by an Honors Council comprised of the onors Director, several faculty members, and several students. In addition, ere is a Student Advisory Committee, which makes recommendations to e Honors Council concerning the various functions of the program.

Students will choose, upon advisement, to take three (or, exceptionally, ur) Honors courses each semester of their first year and two Honors urses each semester of the sophomore year. One Honors course will be quired in the junior year, and one in the senior year.

HONORS COURSE WORK

80-103 and 80-104. *Honors English: The Aesthetic Context* Three Credit Hour
Each Semeste

This sequence will introduce students to the artistic achievements chiefly literary, of Western (and some non-Western) culture, within th context of the major intellectual and ideological currents of the culture Techniques of prose composition will be taught as the students engag these issues in writing.

Lecture: three hours

70-103 and 70-104. *Honors History: The Social, Political, and Historical Context* Three Credit Hour
Each Semeste

This sequence will introduce students to the social, political, an historical events involved in the development of Western (and some non Western) culture, emphasizing the interplay between the way people o the past saw themselves and the universe and the way they shaped thei environment.

Lecture: three hours

26-103 and 26-104. *Honors Science: The Scientific Context* Four Credit Hours
Each Semester

This sequence will be an interdisciplinary study of science, with two or more of the disciplines of biology, chemistry, and physics participating in an interactive fashion.

Lecture: three hours; laboratory: two hours

30-103 and 30-104. *Honors Mathematics: The Analytic Context* Four Credit Hours
Each Semester

This sequence will teach the Calculus within the context of its development from the civilization which produced it and its impact on civilization since. It will follow an historical style which displays the roots of calculus in intuitive reality and exhibits the interaction between the subject and its various applications.

Lecture: four hours

The Citadel Evening College

The Citadel Evening College has been established to make available to the Lowcountry community, and especially the adult in the Lowcountry, the opportunity to share in the quality undergraduate education provided to the South Carolina Corps of Cadets. Courses offered through the Evening College maintain the same standards as those in the cadet day program and generally are taught by faculty who also teach in the day program. The basic mission of the Evening College is to provide to those interested an avenue for self-improvement and professional development through college credit courses which may or may not be part of a degree program.

Evening College Programs

While courses in the Evening College cover a wide variety of areas and are open to interested persons from diverse backgrounds, these planned sequences are offered:

1. a 122 credit hour program leading to the bachelor of science in business administration degree;
2. a 122 credit hour program leading to the bachelor of arts in liberal studies degree;
3. a 138 credit hour program leading to the bachelor of science in civil engineering;
4. a 128 credit hour program leading to the bachelor of science in electrical engineering;
5. a 64 credit hour pre-allied health science program preparing qualified students for admission into professional programs in the College of Allied Health at the Medical University of South Carolina.

In each of the degree programs offered by the Evening College, a minimum of 36 of the total required credit hours must be taken at The Citadel. In addition, to ensure that academic work in the major is current, at least 30 of the final 37 credit hours must be taken at The Citadel within a period of five years of the date of graduation. Credits gained through AP or CLEP may not be counted among these final 37 credit hours or among the 36 credit hours mentioned above. Acceptability of transfer credits is governed by the policy described under the section titled Academic Policies.

Admission: Because of its community service orientation, The Citadel Evening College permits participation by students in non-degree seeking status as well as those who are pursuing an undergraduate degree or who are participating in the pre-allied health science program.

Non-degree seeking students: Non-degree seeking students are permitted to participate under the following conditions:

1.) Students who have graduated from an accredited high school or who have completed the General Education Development (GED) examination and who wish to register for selected course work for personal or professional development may register for a maximum of 15 semester hours on an open enrollment basis. Upon completion of 15 semester hours in a non-degree status, a student must make application to a planned program or obtain special permission to continue as a non-degree student.

2.) Persons age 60 or above many enroll in courses in the Evening College on a "space available," tuition free basis. All other fees must be paid.

3.) High school students may be permitted to register for a maximum of two courses and their associated labs in the Evening College on the basis of a written recommendation from their high school guidance counselors or principals.

4.) Students who wish to enroll in course work for transfer to another institution must present evidence that they are eligible to return to that institution.

Degree-seeking students: An applicant, who wishes to pursue an undergraduate degree or complete the pre-allied health science program, is considered on the basis of the high school record (courses, class standing, and GPR), College Entrance Examination Board Test scores, and recommendations. The applicant must provide the Evening College, with a high school transcript or its equivalent, SAT scores, and transcripts from all other colleges attended and must meet all requirements as outlined in the Educational Requirements section of the undergraduate catalogue. Students in degree seeking status must meet academic criteria for continuance as presented in the Academic Policies section of this catalogue.

A student who is not eligible to return to his/her previous institution is not normally eligible for degree-seeking status in the Evening College.

Exceptions to this policy may be considered under the following circumstances:

a) At least four semesters (exclusive of summer terms) have elapsed since the student was dismissed from his/her former institution.

b) The student presents evidence to the Evening College Admissions Advisory Committee which supports his/her request for degree-seeking status. If provisional admissions is approved, the student will be permitted to register for course work. Upon the successful completion of the first 15 credit hours with a GPR of at least 2.0, the student may be accepted into degree-seeking status.

All credentials regarding admissions for degree-seeking status must be received by the Evening College no later than the end of the student's first semester of enrollment at The Citadel.

It is the responsibility of the student enrolled in the pre-allied health science program to contact the prospective transfer college or university about specific admission and program requirements.

Students who are in cadet status at The Citadel, whether currently enrolled or not, are not eligible to enroll during the fall or spring semester in Evening College courses. Veteran and day students at The Citadel may enroll in courses in the Evening College with the consent of their advisors.

Spring, fall, and summer Evening College class schedules are available from the office of the Evening College. Information on programs, classes, and fees can be obtained from that office.

Summer Programs

A summer session is conducted for students who wish to accelerate their work or to address academic problems. The same fees are charged to both South Carolina and out-of-state students. All fees are due and payable at the time of registration unless prior arrangements have been made with the Treasurer or the Vice President for Financial Management. Bills for summer sessions will not be mailed by the Treasurer. Students who have not cleared their accounts within the first two weeks of each session will be disenrolled from all course work. There will be no refunds of tuition after the first week of each session. During the summer session all purchases of books and supplies will be on a cash basis.

Details of the summer school program are available through the Summer School Bulletin which can be obtained from the Evening College office or the Registrar's Office.

Courses of Study

The following pages contain a detailed schedule of the curriculum required for each degree according to the major subject elected. The clock hours and the credit value of each course are noted. The individual courses are described under the appropriate departmental heading in the pages following the schedules.

The geology courses are offered in the Department of Chemistry; the fine arts in the Department of Education; philosophy in the Department of English; geography in the Department of History; computer science in the Department of Mathematics and Computer Science; and sociology and anthropology in the Department of Political Science.

The courses normally scheduled by the fourth class are numbered from 101 upward, by the third class from 201 upward, by the second class from 301 upward, and by the first class from 400 upward.

The courses of study for the various degree programs are detailed on the following pages. Note that all students must take at least two semesters of the *same* science with certain majors specifying the particular courses. For those majors which require a modern language all four semesters must be in the *same* language. Major work is offered leading to degrees in the following areas: Biology, Business Administration, Chemistry, Civil Engineering, Computer Science, Education, Electrical Engineering, English, History, Mathematics, Modern Languages, Physical Education, Physics, Political Science, and Psychology. A thorough premedical preparation is also available through the B.A. Chemistry or the Biology major.

BIOLOGY MAJOR

First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)*
A Survey of American History	70-101	3	(3,0)
††College Mathematics I	30-105	3	(3,0)
Orientation in Biology	47-100	1	(1,0)
General Biology I	47-101	4	(3,2)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
A Modern Language		3	(3,0)
Physics for Biology and Premedicine	26-205	3	(3,0)
Physics Laboratory for Biology and Premedicine	26-255	1	(0,2)
Cell Biology	47-205	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
***Approved Elective		3	(3,0)
Organic Chemistry	40-207	3	(3,0)
Organic Chemistry Laboratory	40-217	1	(0,3)
A Modern Language		3	(3,0)
Biology Elective		3 (4)	
Biology Elective		3 (4)	
†1st Year Advanced ROTC			
SENIOR YEAR—			
Biology Elective		3 (4)	
Biology Elective		3 (4)	
General Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

The B.S. Biology major requires at least 11 courses, totaling at least 32 credits, in biology. Courses 47-100, 47-103, 47-104, 47-205, and 47-411 are required of all majors. The six remaining electives will include at least one course from each of the following areas: *Physiology:* 47-403, 47-404, 47-425; *Field Biology:* 47-314, 47-321, 47-406, 47-408, 47-409, 47-410, 47-426, 47-490; *Developmental Biology:* 47-208, 47-308, 47-322; 47-401; and at least two courses from *Descriptive Biology:* 47-203, 47-204, 47-301, 47-302, 47-307, 47-309, 47-310, 47-315, 47-316, 47-402, 47-405, 47-419, 47-492. It is recommended that the biology major take at least one advanced botany and one advanced zoology course. Other requirements are listed above. The modern language shall be Spanish, French, German, or Russian.

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

***Student must choose either 26-301, 30-211, 36-115, 36-201, 36-215, or a related course upon approval of the department head.

BIOLOGY MAJOR
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
A Survey of American History	70-102	3	(3,0)
††College Mathematics II	30-106	3	(3,0)
General Biology II	47-102	4	(3,2)
†1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
General Chemistry	40-102	3	(3,0)
General Chemistry Laboratory	40-112	1	(0,2)
A Modern Language		3	(3,0)
Physics for Biology and Premedicine	26-206	3	(3,0)
Physics Laboratory for Biology and Premedicine	26-256	1	(0,2)
General Elective		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Organic Chemistry	40-208	3	(3,0)
Organic Chemistry Laboratory	40-218	1	(0,3)
A Modern Language		3	(3,0)
Biology Elective		3 (4)	
General Elective		3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

Public Speaking	80-205	3	(3,0)
Senior Seminar	47-411	1	(1,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
**Senior Research Project or	47-420		
Biology Elective		3(4)	
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 121 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.
**Prerequisite is approval by department head and supervising professor.

BUSINESS ADMINISTRATION MAJOR
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)*
Biology, Chemistry, or Physics		4	(3,2)
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
A Modern Language		3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR			
Major British Writers	80-201	3	(3,0)
A Modern Language		3	(3,0)
Economic Origins and Principles	5-201	3	(3,0)
**American National Government	60-102	3	(3,0)
Accounting Principles and Practice I	5-211	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
**Business Law I	5-305	3	(3,0)
**Marketing Principles	5-309	3	(3,0)
**Business Finance	5-321	3	(3,0)
Principles of Management	5-325	3	(3,0)
Departmental Elective		3	(3,0)
ROTC			
SENIOR YEAR—			
Production Management	5-410	3	(3,0)
Departmental Elective		3	(3,0)
Departmental Elective		3	(3,0)
**Departmental Elective		3	(3,0)
Approved Non-Business Elective		3	(3,0)
ROTC			
DEPARTMENTAL ELECTIVES—			
Intermediate Accounting	5-300	3	(3,0)
Intermediate Accounting	5-301	3	(3,0)
Managerial Accounting	5-302	3	(3,0)
Principles of Labor	5-307	3	(3,0)
General Insurance	5-308	3	(3,0)
Government Finance	5-311	3	(3,0)
Intermediate Microeconomic Theory	5-313	3	(3,0)
Intermediate Macroeconomic Theory	5-314	3	(3,0)
Business Statistics II	5-315	3	(3,0)
Business Law II	5-318	3	(3,0)
Business Finance Cases and Applications	5-322	3	(3,0)
Principles of Real Estate	5-326	3	(3,0)
Cost Accounting	5-401	3	(3,0)
Advanced Accounting Problems	4-502	3	(3,0)

Note: Of the seven (7) Departmental Electives in the Business Administration degree program, at least one must be selected from among 5-302, 5-315, and 5-322. Further, at least four (4) Departmental Electives must be selected from courses at the 400-level.

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

**May be taken in first or second semester.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 0-107.

BUSINESS ADMINISTRATION MAJOR
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
Biology, Chemistry, and Physics		4	(3,2)
†College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-102	3	(3,0)
A Modern Language		3	(3,0)
1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
A Modern Language		3	(3,0)
Economic Principles and Problems	5-202	3	(3,0)
*Business Statistics I	5-205	3	(3,0)
Accounting Principles and Practice II	5-212	3	(3,0)
2nd Year Basic ROTC			
RPE		0	(0,1)

UNIOR YEAR—

*Introduction to Applied Programming	36-215	3	(3,0)
*Communications in Business	5-316	3	(3,0)
*Taxation	5-312	3	(3,0)
Organization Theory and Behavior	5-328	3	(3,0)
Departmental Elective		3	(3,0)
ROTC			

ENIOR YEAR—

Business Policy	5-422	3	(3,0)
Departmental Elective		3	(3,0)
Departmental Elective		3	(3,0)
*Approved Non-Business Elective		3	(3,0)
Approved Non-Business Elective		3	(3,0)
ROTC			

HOURS REQUIRED FOR GRADUATION: 122 plus the credit hours from successful ompletion of ROTC for all semesters that a cadet is enrolled at The Citadel.

DEPARTMENTAL ELECTIVES—

nvestments	5-404	3	(3,0)
Marketing Management	5-405	3	(3,0)
Transportation	5-406	3	(3,0)
Money and Banking	5-407	3	(3,0)
Bank Management	5-408	3	(3,0)
Personnel Management	5-409	3	(3,0)
nternational Trade	5-412	3	(3,0)
Auditing	5-416	3	(3,0)
Marketing Problems	5-418	3	(3,0)
eminar in Business Administration	5-420	3	(3,0)
Management Information Systems	36-306	3	(3,0)
Methods of Operations Research	36-311	3	(3,0)
Methods of Operations Research	36-312	3	(3,0)

B.S. CHEMISTRY MAJOR
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
Analytic Geometry and Calculus I	30-131	4	(4,0)
A Modern Language	-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Organic Chemistry	40-207	3	(3,0)
Organic Chemistry Laboratory	40-217	1	(0,3)
Analytic Geometry and Calculus III	30-231	4	(4,0)
A Modern Language	-201	3	(3,0)
Introduction To Computer Applications or	36-115		
Introduction To Applied Programming	36-215	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Quantitative Analysis	40-300	4	(3,3)
Physical Chemistry	40-305	3	(3,0)
Physical Chemistry Laboratory	40-315	1	(0,3)
Chemical Literature	40-308	1	(1,0)
Physics for Engineers and Physical Scientists	26-211	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-261	1	(0,2)
A Survey of American History	70-101	3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Basic Inorganic Chemistry	40-401	3	(3,0)
Biochemistry or	40-409	3	(3,0)
Special Topics in Organic Chemistry	40-403	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
Senior Research	40-419	2	
Senior Seminar	40-429	1	
†2nd Year Advanced ROTC			

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, th total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

B.S. CHEMISTRY MAJOR

Second Semester

RESHMAN YEAR—			
omposition and Literature	80-102	3	(3,0)
eneral Chemistry	40-102	3	(3,0)
eneral Chemistry Laboratory	40-112	1	(0,2)
nalytic Geometry and Calculus II	30-132	4	(4,0)
Modern Language	-102	3	(3,0)
1st Year Basic ROTC			
PE		0	(0,2)
OPHOMORE YEAR—			
ajor British Writers	80-202	3	(3,0)
hysics for Engineers and Physical Scientists	26-210	3	(3,0)
hysics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2)
ifferential Equations	30-232	3	(3,0)
rganic Chemistry	40-208	3	(3,0)
rganic Chemistry Laboratory	40-218	1	(0,3)
Modern Language	-202	3	(3,0)
2nd Year Basic ROTC			
PE		0	(0,1)
UNIOR YEAR—			
hysics for Engineers and Physical Scientists	26-212	3	(3,0)
hysics Laboratory for Engineers and Physical Scientists	26-262	1	(0,2)
nstrumental Methods	40-302	4	(2,4)
hysical Chemistry	40-306	3	(3,0)
hysical Chemistry Laboratory	40-316	1	(0,3)
Survey of American History	70-102	3	(3,0)
eneral Elective		3	(3,0)
1st Year Advanced ROTC			
ENIOR YEAR—			
hysical Inorganic Chemistry	40-402	3	(3,0)
norganic Preparations	40-412	1	(0,3)
ualitative Organic Analysis	40-408	4	(1,6)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
enior Research Project	40-420	1	
enior Seminar	40-430	0	
2nd Year Advanced ROTC			

OURS REQUIRED FOR GRADUATION: 126 plus the credit hours rom successful completion of ROTC for all semesters that a cadet is nrolled at The Citadel.

B.A. CHEMISTRY MAJOR

First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

Major British Writers	80-201	3	(3,0)
Organic Chemistry	40-207	3	(3,0)
Organic Chemistry Laboratory	40-217	1	(0,3)
Physics for Biology and Premedicine	26-205	3	(3,0)
Physics Laboratory for Biology and Premedicine	26-255	1	(0,2)
Introduction to Computer Applications or	36-115		
Introduction to Applied Programming	36-215	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Quantitative Analysis	40-300	4	(3,3)
A Modern Language	-101	3	(3,0)
Writing in the Professions	80-411	3	(3,0)
Physical Chemistry	40-305	3	(3,0)
Chemical Literature	40-308	1	(1,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

Basic Inorganic Chemistry	40-401	3	(3,0)
A Modern Language	-201	3	(3,0)
Chemistry Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
Senior Seminar	40-429	1	
†2nd Year Advanced ROTC			

---

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture, and/or lab) may vary each semester by military department; however, th total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

B.A. CHEMISTRY MAJOR
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
General Chemistry	40-102	3	(3,0)
General Chemistry Laboratory	40-112	1	(0,2)
College Mathematics III	30-107	3	(3,0)
A Survey of American History	70-102	3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
Organic Chemistry	40-208	3	(3,0)
Organic Chemistry Laboratory	40-218	1	(0,3)
Physics for Biology and Premedicine	26-206	3	(3,0)
Physics Laboratory for Biology and Premedicine	26-256	1	(0,2)
**General Elective		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Physical Chemistry	40-306	3	(3,0)
A Modern Language	-102	3	(3,0)
Instrumental Methods	40-302	4	(2,4)
General Elective		3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

A Modern Language	-202	3	(3,0)
Chemistry Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
Senior Seminar	40-430	0	
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 118 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled in The Citadel.

**Students planning a career in medicine should take 47-101 (General Biology I) or 47-102 (General Biology II) for the elective in the sophomore year.

CIVIL ENGINEERING MAJOR

First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
Analytic Geometry and Calculus I	30-131	4	(4,0)
A Survey of American History	70-101	3	(3,0)
Engineering Drawing	10-101	2	(0,4)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Physics for Engineers and Physical Scientists	26-210	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2)
Analytic Geometry and Calculus III	30-231	4	(4,0)
Surveying	10-205	3	(3,0)
Surveying Laboratory	10-235	1	(0,2)
Computer Application for Civil Engineering	10-209	1	(1,1)
Humanities & Social Science Elective		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Physics for Engineers and Physical Scientists	26-212	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-262	1	(0,2)
Dynamics	10-301	3	(3,0)
Mechanics of Materials	10-303	4	(3,2)
Transportation Engineering	10-305	3	(3,0)
Materials Laboratory	10-307	1	(0,3)
Geology for Engineers	45-303	3	(2,2)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Concrete Laboratory	10-401	1	(0,2)
Reinforced Concrete Design	10-403	4	(4,0)
Structural Analysis II	10-405	3	(2,2)
Environmental Engineering	10-408	3	(3,0)
Fluid Mechanics Laboratory	10-418	1	(0,2)
Introduction to Geotechnical Engineering	10-409	3	(3,0)
Humanities or Social Science Elective		3	(3,0)
Senior Research Project	10-420	0	
†2nd Year Advanced ROTC			

*Represents semester hour credits, lecture, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

**Select 10-422, 10-423, 10-424, or 10-425.

CIVIL ENGINEERING MAJOR
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
General Chemistry	40-102	3	(3,0)
General Chemistry Laboratory	40-112	1	(0,2)
Analytic Geometry and Calculus II	30-132	4	(4,0)
A Survey of American History	70-102	3	(3,0)
Engineering Design and Analysis	10-102	2	(0,4)
†1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
Physics for Engineers and Physical Scientists	26-211	3	(3,0)
Physical Laboratory for Engineers and Physical Scientists	26-261	1	(0,2)
Applied Mathematics I	30-234	4	(4,0)
Statics	10-202	3	(2,2)
Photogrammetry	10-204	1	(0,2)
Surveying	10-206	3	(3,0)
Surveying Laboratory II	10-236	1	(0,2)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Highway Engineering	10-306	2	(2,0)
Highway Engineering Lab	10-326	1	(0,2)
Structural Analysis I	10-308	3	(3,0)
Fluid Mechanics	10-315	3	(3,0)
Engineering Administration	10-314	2	(2,0)
Elements of Electrical Engineering	20-308	3	(3,0)
Technical Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

Steel Design	10-406	3	(2,2)
Humanities or Social Science Elective		3	(3,0)
Environmental Engineering Laboratory	10-419	1	(0,2)
Geotechnical Engineering II	10-410	3	(3,0)
Geotechnical Laboratory	10-402	1	(0,2)
**Civil Engineering Elective		3	(3,0)
Senior Research Project	10-420	2	
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 139 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

COMPUTER SCIENCE MAJOR

First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
Analytic Geometry and Calculus I	30-131	4	(4,0)
A Survey of American History	70-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
A Modern Language		3	(3,0)
Introduction to Discrete Structures	36-206	3	(3,0)
Introductory Statistics	30-211	3	(3,0)
Introduction to Computer Science I	36-201	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
A Modern Language		3	(3,0)
Physics for Engineers and Physical Scientists	26-211	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-261	2	(0,2)
Applied Numerical Methods	36-301	3	(3,0)
Computer Organization and Programming	36-302	3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Digital Systems Fundamentals	20-305	3	(3,0)
File Organization and Database Design	36-320	3	(3,0)
General Elective		3	(3,0)
**Mathematics Elective	30-	3	(3,0)
***Mathematics/Computer Science Elective		3	(3,0)
†2nd Year Advanced ROTC			

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

**Includes 30-321, 30-324, and any mathematics course numbered at the 300 or 400 level.

***Any mathematics elective and the following computer science courses: 36-311, 36-312.

COMPUTER SCIENCE MAJOR
Second Semester

FRESHMAN YEAR—			
Composition and Literature	80-102	3	(3,0)
General Chemistry	40-102	3	(3,0)
General Chemistry Laboratory	40-112	1	(0,2)
Analytic Geometry and Calculus II	30-132	4	(4,0)
A Survey of American History	70-102	3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2)
SOPHOMORE YEAR—			
Major British Writers	80-202	3	(3,0)
Physics for Engineers and Physical Scientists	26-210	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2)
A Modern Language		3	(3,0)
Introduction to Computer Science II	36-202	3	(3,0)
Linear Algebra	30-240	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
**Mathematics Elective	30-	3	(3,0)
A Modern Language		3	(3,0)
Introduction to COBOL	36-313	3	(3,0)
Data Structures	36-401	3	(3,0)
Programming Languages	36-402	3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Digital Systems Design	20-428	3	(3,0)
**Mathematics Elective	30-	3	(3,0)
Principles of Compiler Design	36-412	3	(3,0)
Operating Systems and Computer Architecture	36-405	3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 123 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

EDUCATION MAJOR
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)*
††College Mathematics I	30-105	3	(3,0)
General Biology I	47-101	4	(3,2)
A Survey of American History	70-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Physical Science		4	(3,2)
Social Studies (other than History)		3	(3,0)
General Psychology	51-201	3	(3,0)
‡Teaching Field Subject		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Philosophy of Education	50-301	3	(3,0)
Educational Psychology	50-302	3	(3,0)
Teaching Field Subject		3	(3,0)
Music Appreciation	54-205	3	(3,0)
Personal and Community Health	58-101	3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Teaching Reading in the Secondary School	50-408	3	(3,0)
Methods and Materials of Secondary School Teaching	50-401	3	(3,0)
Teaching Field Subject		3	(3,0)
Teaching Field Subject		3	(3,0)
Teaching Field Subject		3	(3,0)
Approved Elective		3	(3,0)
†2nd Year Advanced ROTC			

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however the total hours which may be applied toward graduate requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

‡If teaching field is a science, these will often be 4 hour courses with lab.

EDUCATION MAJOR
Second Semester

FRESHMAN YEAR—			
Composition and Literature	80-102	3	(3,0)
††College Mathematics II	30-106	3	(3,0)
General Biology II	47-102	4	(3,2)
A Survey of American History	70-102	3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2
SOPHOMORE YEAR—			
Major British Writers	80-202	3	(3,0)
Physical Science		4	(3,2)
Social Studies (other than History)		3	(3,0)
Art Appreciation	54-206	3	(3,0)
Introduction to Education	50-201	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Adolescent Development	50-308	3	(3,0)
Teaching Field Subject		3	(3,0)
Teaching Field Subject		3	(3,0)
Teaching Field Subject		3	(3,0)
Approved Elective		3	
†1st Year and 2nd Year Advanced ROTC Army: MS 302 and 402; Navy: NS 302 and 402 or 404; and Air Force: AS 302 and 402			
SENIOR YEAR—			
Social and Cultural History of the Non-western World	70-417	1	
**Internship in Teaching	50-400	12	
**Special Methods in Teaching	50-402	3	(3,0)

HOURS REQUIRED FOR GRADUATION: 122 (note exceptions below) plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel. Exceptions: for the teaching field of General Science, the required hours are 123; for Mathematics, 124; and for Science, 128, plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

**These courses must be taken in the second semester of the final year.

ELECTRICAL ENGINEERING

First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0)*
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
Analytic Geometry and Calculus I	30-131	4	(4,0)
A Survey of American History	70-101	3	(3,0)
Introduction to Engineering	20-103	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

Major British Writers	80-201	3	(3,0)
Analytic Geometry and Calculus III	30-231	4	(4,0)
Physics for Engineers and Physical Scientists	26-211	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-261	1	(0,2)
Electric Circuit Analysis I	20-201	3	(3,0)
A Survey of American History	70-102	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Applied Mathematics II	30-335	3	(3,0)
Linear Circuit Analysis	20-309	3	(3,0)
Electromagnetic Fields	20-318	3	(3,0)
Digital Logic and Circuits	20-311	3	(3,0)
Electronics I	20-306	3	(3,0)
Linear Circuits Laboratory	20-301	1	(0,2)
Engineering Administration	20-313	1	(0,2)
†1st Year Advanced ROTC			

SENIOR YEAR—

Design I	20-421	3	(1,4)
Humanities Elective		3	(3,0)
Professional Elective		3	(3,0)
Professional Elective		3	(3,0)
Professional Elective		3	(3,0)
†2nd Year Advanced ROTC			

PROFESSIONAL ELECTIVES—

Electronics II	20-401	3	(3,0)
Electric Power Systems	20-403	3	(3,0)
Electrical Measurements	20-405	2	(2,0)
Electrical Measurements Laboratory	20-415	1	(0,2)
Systems II	20-407	3	(3,0)
Advanced Topics In Electrical Engineering	20-413	3	(3,0)

*Represents semester hour credits, lectures, laboratory hours in that sequence.
†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

ELECTRICAL ENGINEERING
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
Principles of Chemistry	40-106	3	(3,0)
Analytic Geometry and Calculus II	30-132	4	(4,0)
Physics for Engineers and Physical Scientists	26-210	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2)
Graphic Communication	20-102	1	(0,2)
†1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
Applied Mathematics I	30-234	4	(4,0)
Physics for Engineers and Physical Scientists	26-212	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-262	1	(0,2)
Computer Applications for Electrical Engineers	20-206	2	(2,0)
Electric Circuit Analysis II	20-202	3	(3,0)
Electrical Laboratory	20-204	1	(0,2)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Systems I	20-312	3	(3,0)
Electromechanical Energy Conversion	20-316	3	(3,0)
Digital Systems Engineering	20-330	3	(3,0)
Electrical Machinery Laboratory	20-302	1	(0,2)
Optics (26-308) or Nuclear Engineering (20-307)		3	(3,0)
Engineering Administration	10-314	2	(2,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

Design II	20-422	3	(1,4)
Humanities Elective		3	(3,0)
Professional Elective		3	(3,0)
Professional Elective		3	(3,0)
Professional Elective		3	(3,0)
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 128 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

PROFESSIONAL ELECTIVES—

Antennas and Propagation	20-426	3	(3,0)
Quality Control and Reliability	20-404	3	(3,0)
System Simulation	20-414	3	(3,0)
Communications Engineering	20-416	3	(3,0)
Solid-State Devices	20-424	3	(3,0)

ENGLISH MAJOR
First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0)*
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
A Modern Language		3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

Survey of English Literature	80-213	3	(3,0)
History of Western Civilization	70-221	3	(3,0)
Mythology, or	80-211	3	(3,0)
The Bible as Literature	80-212		
Elective		3	(3,0)
A Modern Language		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

**Shakespeare, or	80-317	3	(3,0)
Shakespeare	80-318		
**An Elective from Group B		3	(3,0)
English Elective		3	(3,0)
Elective		3	(3,0)
Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

***American Literature Elective		3	(3,0)
**An Elective from Group A		3	(3,0)
English Elective		3	(3,0)
Elective		3	(3,0)
Elective		3	(3,0)
†2nd Year Advanced ROTC			

---

*Represents semester hour credits, lecture, and laboratory hours in that sequence.

**May be taken first or second semester. 80-301, 80-317, 80-318 and 80-319 may not be used to satisfy this requirement.

***Students must take six hours of American Literature (80-341, 80-342, 80-343, or 80-344) of which three hours must be 80-342 or 80-343.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which must be applied toward graduation requirements may not exceed 16 semester hours.

ENGLISH MAJOR
Second Semester

FRESHMAN YEAR—			
Composition and Literature	80-102	3	(3,0)
††College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-102	3	(3,0)
A Modern Language		3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
†1st Year Basic ROTC			
RPE		0	(0,2)
SOPHOMORE YEAR—			
Survey of English Literature	80-214	3	(3,0)
History of Western Civilization	70-222	3	(3,0)
Introduction to Philosophy	81-201	3	(3,0)
Elective		3	(3,0)
A Modern Language		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
**Chaucer, or	80-301	3	(3,0)
Milton	80-319		
**An Elective from Group C		3	(3,0)
English Elective		3	(3,0)
Elective		3	(3,0)
Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
***American Literature Elective		3	(3,0)
**An Elective from Group C		3	(3,0)
English Elective		3	(3,0)
Elective		3	(3,0)
Elective		3	(3,0)
†2nd Year Advanced ROTC		3	(3,0)

HOURS REQUIRED FOR GRADUATION: 122 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

HISTORY MAJOR
First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0)*
**College Mathematics I	30-105	3	(3,0)
Introduction to Ancient History	70-121	3	(3,0)
American National Government	60-102	3	(3,0)
A Modern Language		3	(3,0)
***1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

Major British Writers	80-201	3	(3,0)
Survey of Modern Europe, 1500-1815		3	(3,0)
A Survey of American History	70-101	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
A Modern Language		3	(3,0)
***2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

History of England Since 1485	70-328	3	(3,0)
U.S. Elective	70-	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
Economic Origins and Principles	5-201	3	(3,0)
***1st Year Advanced ROTC			

SENIOR YEAR—

History of Modern Russia	70-424	3	(3,0)
U.S. Elective	70-	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†Political Science Elective	60-	3	(3,0)
***2nd Year Advanced ROTC			

*Represents semester hour credits, lecture, and laboratory hours in that sequence.

**Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

***ROTC hours (credit, lecture, and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

†Must be numbered at the 300 or 400 level.

HISTORY MAJOR
Second Semester

RESHMAN YEAR—

omposition and Literature	80-102	3	(3,0)
College Mathematics II	30-106	3	(3,0)
troduction to Medieval History	70-122	3	(3,0)
ementary Geography	71-109	3	(3,0)
Modern Language		3	(3,0)
*1st Year Basic ROTC			
PE		0	(0,2)

PHOMORE YEAR—

ajor British Writers	80-202	3	(3,0)
rvey of Modern Europe, 1815 to Present	70-232	3	(3,0)
Survey of American History	70-102	3	(3,0)
ology, Chemistry, or Physics		4	(3,2)
Modern Language		3	(3,0)
*2nd Year Basic ROTC			
PE		0	(0,1)

NIOR YEAR—

olitical Science Elective	60-	3	(3,0)
.S. Elective	70-	3	(3,0)
ective		3	(3,0)
ective		3	(3,0)
conomic Origins and Principles	5-202	3	(3,0)
*1st Year Advanced ROTC			

ENIOR YEAR—

he Modernization of China and Japan	70-461	3	(3,0)
.S. Elective	70-	3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
olitical Science Elective	f0-	3	(3,0)
*2nd Year Advanced ROTC			

OURS REQUIRED FOR GRADUATION: 122 plus the credit hours om successful completion of ROTC for all semesters that a cadet is rolled at The Citadel.

B.S. MATHEMATICS MAJOR
First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0
General Chemistry	40-101	3	(3,0
General Chemistry Laboratory	40-111	1	(0,2
Analytic Geometry and Calculus I	30-131	4	(4,0
A Survey of American History	70-101	3	(3,0
†1st Year Basic ROTC			
RPE	57-101	0	(1,1

SOPHOMORE YEAR—

Major British Writers	80-201	3	(3,0
Physics for Engineers and Physical Scientists	26-210	4	(3,2
Physics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2
Analytic Geometry and Calculus III	30-231	4	(4,0
Introductory Statistics	30-211	3	(3,0
German, French, or Russian	93-101, 94-101, or 91-101	3	(3,0
†2nd Year Basic ROTC			
RPE		0	(0,1

JUNIOR YEAR—

Introduction to Discrete Structures	36-206	3	(3,0
Applied Mathematics II	30-335	3	(3,0
Applied Numerical Methods	36-301	3	(3,0
German, French, or Russian	93-201, 94-201, or 97-201	3	(3,0
Linear Algebra	30-240	3	(3,0
†1st Year Advanced ROTC			

SENIOR YEAR—

Introduction to Analysis I	30-403	3	(3,0
Modern Algebra	30-303	3	(3,0
Mathematics Elective		3	(3,0
General Elective		3	(3,0
General Elective		3	(3,0
†2nd Year Advanced ROTC			

---

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

B.S. MATHEMATICS MAJOR

Second Semester

RESHMAN YEAR—

omposition and Literature	80-102	3	(3,0)
eneral Chemistry	40-102	3	(3,0)
eneral Chemistry Laboratory	40-112	1	(0,2)
nalytic Geometry and Calculus II	30-132	4	(4,0)
Survey of American History	70-102	3	(3,0)
1st Year Basic ROTC			
PE		0	(0,2)

OPHOMORE YEAR—

lajor British Writers	80-202	3	(3,0)
pplied Mathematics I	30-234	4	(4,0)
hysics for Engineers and hysical Scientist	26-211	3	(3,0)
hysics Laboratory for ngineers and Physical Scientist	26-261	1	(0,2)
erman, French, or Russian 93-102, 94-112, or	97-102	3	(3,0)
ntroduction to Computer Science I	36-201	3	(3,0)
2nd Year Basic ROTC			
PE		0	(0,1)

UNIOR YEAR—

*Mathematics Elective	30-	3	(3,0)
umerical Analysis	30-318	3	(3,0)
omplex Analysis	30-422	3	(3,0)
erman, French, or Russian 93-202, 94-202, or	97-202	3	(3,0)
eneral Elective		3	(3,0)
1st Year Advanced ROTC			

ENIOR YEAR—

*Mathematics Elective	30-	3	(3,0)
ntroduction to Analysis II	30-404	3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)

IOURS REQUIRED FOR GRADUATION: 122 plus the credit hours om successful completion of ROTC for all semesters that a cadet is nrolled at The Citadel.

Mathematics electives must be chosen from 30-301, 30-305, 30-405, 30-411, 30-414.

B.A. MATHEMATICS MAJOR
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)
**Biology, Chemistry, or Physics		4	(3,2)
††College Algebra and Trigonometry	30-119	4	(4,0)
A Survey of American History	70-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Analytic Geometry and Calculus II	30-132	4	(4,0)
Introductory Statistics	30-211	3	(3,0)
A Modern Language		3	(3,0)
Introduction to Computer Science I	36-201	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Linear Algebra	30-240	3	(3,0)
Differential Equations	30-232	3	(3,0)
General Elective		3	(3,0)
A Modern Language		3	(3,0)
***Approved Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
†Mathematics Elective		3	(3,0)
***Approved Elective		3	(3,0)
***Approved Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

---

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

**Must be followed the second semester by four semester hours of the same science.

***The student must select one of five approved sequences of study. Listings of complete courses of stu for each of these sequences are available from the Department of Mathematics and Computer Science.

††Students well grounded in algebra and trigonometry may substitute 30-131.

‡Includes any mathematics course numbered at the 300 or 400 level.

B.A. MATHEMATICS MAJOR
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
Analytic Geometry and Calculus I	30-131	4	(4,0)
A Survey of American History	70-102	3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
Analytic Geometry and Calculus III	30-231	4	(4,0)
A Modern Language			
Introduction to Discrete Structures	36-206	3	(3,0)
***Approved Elective		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

Mathematical Models and Applications	30-301	3	(3,0)
‡Mathematics Elective		3	(3,0)
A Modern Language		3	(3,0)
***Approved Elective		3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

***Approved Elective		3	(3,0)
***Approved Elective		3	(3,0)
***Approved Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 120 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

---

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

MODERN LANGUAGE MAJOR

First Semester

FRESHMAN YEAR—

**Elementary Modern Language	-101	3	(3,0)
Composition and Literature	80-101	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

History of Western Civilization	70-221	3	(3,0)
**Intermediate Modern Language	-201	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
Major British Writers	80-201	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

**Advanced Modern Language	-301	3	(3,0)
**Advanced Modern Language		3	(3,0)
**Advanced Modern Language		3	(3,0)
General Elective		3	(3,0)
Introduction to Linguistics	90-300	3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

**Advanced Modern Language		3	(3,0)
**Advanced Modern Language		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

*Represents semester hour credit, lectures, and laboratory hours in that sequence.

**All course must be in the same language (German: 93; French: 94; Spanish: 96). All majors are requir to take 301 and 302.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

MODERN LANGUAGE MAJOR
Second Semester

RESHMAN YEAR—

*Elementary Modern Language	-102	3	(3,0)
omposition and Literature	80-102	3	(3,0)
iology, Chemistry, or Physics		4	(3,2)
†College Mathematics II	30-106	3	(3,0)
Survey of American History	70-102	3	(3,0)
1st Year Basic ROTC			
PE		0	(0,2)

OPHOMORE YEAR—

istory of Western Civilization	70-222	3	(3,0)
*Intermediate Modern Language	-202	3	(3,0)
eneral Elective		3	(3,0)
ajor British Writers	80-202	3	(3,0)
eneral Elective		3	(3,0)
2nd Year Basic ROTC			
PE		0	(0,1)

UNIOR YEAR—

*Advanced Modern Language	-302	3	(3,0)
*Advanced Modern Language		3	(3,0)
*Advanced Modern Language		3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
1st Year Advanced ROTC			

ENIOR YEAR—

*Advanced Modern Language		3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
eneral Elective		3	(3,0)
2nd Year Advanced ROTC			

OURS REQUIRED FOR GRADUATION: 122 plus the credit hours rom successful completion of ROTC for all semesters that a cadet is nrolled at The Citadel.

ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the tal hours which may be applied toward graduation requirements may not exceed 16 semester hours.

PHYSICAL EDUCATION MAJOR
Teaching Track
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
Introduction to Physical Education	59-101	3	(3,0)
Personal and Community Health	58-101	3	(3,0)
†1st Year Basic ROTC	-101		
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Physical Science (Chemistry or Physics)		4	(3,2)
Measurement and Evaluation in Physical Education	59-205	3	(3,0)
Music Appreciation	54-205	3	(3,0)
Applied Methods Elective	59-	2	(1,2)
†2nd Year Basic ROTC	-201		
RPE		0	(0,1)
JUNIOR YEAR—			
Human Anatomy	47-303	3	(3,0)
Human Anatomy Laboratory	47-305	1	(0,2)
Child Development	50-307	3	(3,0)
Educational Psychology	50-302	3	(3,0)
Philosophy of Education	50-301	3	(3,0)
Applied Methods Elective	59-	2	(1,2)
Elementary School Physical Education	59-433	3	(3,0)
†1st Year Advanced ROTC	-301		
SENIOR YEAR—			
Special Physical Education	59-403	3	(2,2)
Physiology of Exercise	59-419	3	(2,2)
General Elective		3	(3,0)
General Elective		3	(3,0)
Teaching Reading in the Secondary School	50-408	3	(3,0)
†2nd Year Advanced ROTC	-401		

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, tl total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

PHYSICAL EDUCATION MAJOR
Teaching Track
Second Semester

FRESHMAN YEAR—			
Composition and Literature	80-102	3	(3,0)*
††College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-102	3	(3,0)
Introduction to Zoology	47-104	4	(3,2)
Learning Theory and Methodology in Physical Education	59-102	3	(2,2)
†1st Year Basic ROTC	-102		
RPE		0	(0,2)
SOPHOMORE YEAR—			
Major British Writers	80-202	3	(3,0)
Physical Science (Chemistry or Physics)		4	(3,2)
Applied Methods Elective	59-	2	(1,2)
Art Appreciation	54-206	3	(3,0)
General Elective		3	(3,0)
†2nd Year Basic ROTC	-202		
RPE		0	(0,1)
JUNIOR YEAR—			
Human Physiology	47-304	3	(3,0)
Human Physiology Laboratory	47-306	1	(0,2)
Kinesiology	59-314	3	(2,2)
Adolescent Development	50-308	3	(3,0)
Care and Prevention of Athletic Injuries	59-402	3	(2,2)
Applied Methods Elective	59-	2	(1,2)
†1st Year Advanced ROTC	-302		
2nd Year Advanced ROTC	-402		
SENIOR YEAR—			
Administration of Physical Education	59-404	3	(3,0)
Internship in Teaching	59-400	12	(2,0)
Social and Cultural History of the Non-western World	70-417	1	(1,0)
Senior Seminar	59-421	1	(1,0)

HOURS REQUIRED FOR GRADUATION: 126 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

PHYSICAL EDUCATION MAJOR
Non-Teaching Track
First Semester

FRESHMAN YEAR—

Composition and Literature	80-101	3	(3,0)*
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
Introduction to Physical Education	59-101	3	(3,0)
Personal and Community Health	58-101	3	(3,0)
†1st Year Basic ROTC	-101		
RPE	57-101	0	(0,1)

SOPHOMORE YEAR—

Major British Writers	80-201	3	(3,0)
Physical Science (Chemistry or Physics)		4	(3,2)
Measurement and Evaluation in Physical Education	59-205	3	(3,0)
Applied Methods Elective	59-	2	(1,2)
A Modern Language		3	(3,0)
†2nd Year Basic ROTC	-201		
RPE		0	(0,1)

JUNIOR YEAR—

Human Anatomy	47-303	3	(3,0)
Human Anatomy Laboratory	47-305	1	(0,2)
First Aid and Emergency Care	58-300	3	(3,0)
Applied Methods Elective	59-	2	(1,2)
A Modern Language		3	(3,0)
Approved Elective		3	(3,0)
†1st Year Advanced ROTC	-301		

SENIOR YEAR—

Special Physical Education	59-403	3	(2,2)
Physiology of Exercise	59-419	3	(2,2)
Approved Elective		3	(3,0)
Approved Elective		3	(3,0)
Approved Elective		3	(3,0)
†2nd Year Advanced ROTC	-401		

---

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

PHYSICAL EDUCATION MAJOR
Non-Teaching Track
Second Semester

FRESHMAN YEAR—

Composition and Literature	80-102	3	(3,0)
††College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-102	3	(3,0)
Introduction to Zoology	47-104	4	(3,2)
Learning Theory and Methodology in Physical Education	59-102	3	(2,2)
†1st Year Basic ROTC	-102		
RPE		0	(0,2)

SOPHOMORE YEAR—

Major British Writers	80-202	3	(3,0)
Physical Science (Chemistry or Physics)		4	(3,2)
A Modern Language		3	(3,0)
Applied Methods Elective	59-	2	(1,2)
Introduction to Public Speaking	80-205	3	(3,0)
†2nd Year Basic ROTC	-202		
RPE		0	(0,1)

JUNIOR YEAR—

Human Physiology	47-304	3	(3,0)
Human Physiology Laboratory	47-306	1	(0,2)
Care and Prevention of Athletic Injuries	59-402	3	(2,2)
Kinesiology	59-314	3	(2,2)
Applied Method Elective	59-	2	(1,2)
A Modern Language		3	(3,0)
Developmental Psychology	51-202	3	(3,0)
†1st Year Advanced ROTC	-302		

SENIOR YEAR—

Nutrition	58-401	3	(3,0)
Administration of Physical Education	59-404	3	(3,0)
Drug and Substance Abuse	58-402	3	(3,0)
Approved Elective		3	(3,0)
Directed Field Experience	59-406	3	(1,6)
Senior Seminar	59-421	1	(1,0)
†2nd Year Advanced ROTC	-402		

HOURS REQUIRED FOR GRADUATION: 125 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

PHYSICS MAJOR
First Semester

FRESHMAN YEAR—			
Introduction to Physics	26-101	2	(2,0)*
Analytic Geometry and Calculus I	30-131	4	(4,0)
General Chemistry	40-101	3	(3,0)
General Chemistry Laboratory	40-111	1	(0,2)
A Survey of American History	70-101	3	(3,0)
Composition and Literature	80-101	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)
SOPHOMORE YEAR—			
Physics for Engineers and Physical Scientists	26-211	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-261	1	(0,2)
Analytic Geometry and Calculus III	30-231	4	(4,0)
French, German, Russian, or Spanish		3	(3,0)
A Survey of American History	70-102	3	(3,0)
Major British Writers	80-201	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Electronic Instrumentation	26-307	3	(3,0)
Modern Physics	26-313	3	(3,0)
Analytical Mechanics	26-315	3	(3,0)
Electronic Instrumentation Laboratory	26-357	1	(0,2)
Applied Mathematics II	30-335	3	(3,0)
French, German, Russian, or Spanish		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Electricity and Magnetism	26-403	3	(3,0)
Quantum Mechanics	26-405	3	(3,0)
Research Planning	26-419	1	(0,2)
Advanced Laboratory Physics	26-451	1	(0,2)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, th total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

PHYSICS MAJOR
Second Semester

FRESHMAN YEAR—			
Physics for Engineers and Physical Scientists	26-210	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-260	1	(0,2)
Analytic Geometry and Calculus II	30-132	4	(4,0)
General Chemistry	40-102	3	(3,0)
General Chemistry Laboratory	40-112	1	(0,2)
Composition and Literature	80-102	3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2)
SOPHOMORE YEAR—			
Physics for Engineers and Physical Scientists	26-212	3	(3,0)
Physics Laboratory for Engineers and Physical Scientists	26-262	1	(0,2)
Applied Mathematics I	30-234	4	(4,0)
French, German, Russian, or Spanish		3	(3,0)
Major British Writers	80-202	3	(3,0)
Approved Elective		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Optics	26-308	3	(3,0)
Analytical Mechanics	26-316	3	(3,0)
Mathematical Physics	26-320	3	(3,0)
Optics Laboratory	26-358	1	(0,2)
Complex Analysis	30-422	3	(3,0)
French, German, Russian, or Spanish		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Electricity and Magnetism	26-404	3	(3,0)
Quantum Mechanics	26-406	3	(3,0)
Thermodynamics	26-410	3	(3,0)
Senior Research Project	26-420	3	(1,4)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 126 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

POLITICAL SCIENCE MAJOR
First Semester

FRESHMAN YEAR—

Introduction to Political Science	60-101	3	(3,0)*
Composition and Literature	80-101	3	(3,0)
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
A Modern Language		3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(1,1)

SOPHOMORE YEAR—

International Politics	60-231	3	(3,0)
Major British Writers	80-201	3	(3,0)
History of Western Civilization	70-221	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
A Modern Language		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)

JUNIOR YEAR—

†††Subfield Required Course	60-	3	(3,0)
American Politics Elective	60-	3	(3,0)
Economics Origins and Principles	5-201	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			

SENIOR YEAR—

Constititional Law: Civil Rights	60-462	3	(3,0)
†††Subfield Required Course	60-	3	(3,0)
Subfield Elective	60-	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†2nd Year Advanced ROTC			

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

†††Majors must concentrate in one of three subfields (American Government and Politics, International Politics and Military Affairs, or Law and Criminal Justice) during their junior and senior years.

POLITICAL SCIENCE MAJOR
Second Semester

FRESHMAN YEAR—			
American National Government	60-102	3	(3,0)
Composition and Literature	80-102	3	(3,0)
††College Mathematics II	30-106	3	(3,0)
A Survey of American History	70-102	3	(3,0)
A Modern Language		3	(3,0)
†1st Year Basic ROTC			
RPE		0	(0,2)
SOPHOMORE YEAR—			
Comparative Politics	60-232	3	(3,0)
Major British Writers	80-202	3	(3,0)
History of Western Civilization	70-222	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
A Modern Language		3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Political Theory	60-392	3	(3,0)
†††Subfield Required Course	60-	3	(3,0)
Economic Principles and Problems	5-202	3	(3,0)
General Elective		3	(3,0)
General Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Political Science Elective	60-	3	(3,0)
Subfield Elective	60-	3	(3,0)
Subfield Elective	60-	3	(3,0)
General Elective		3	(3,0)
Political Science Elective or	60-	3	(3,0)
Senior Research Project	60-498		
†2nd Year Advanced ROTC			

HOURS REQUIRED FOR GRADUATION: 122 plus the credit hours from successful completion of ROTC for all semesters that a cadet is enrolled at The Citadel.

PSYCHOLOGY MAJOR
First Semester

FRESHMAN YEAR—			
Composition and Literature	80-101	3	(3,0)*
††College Mathematics I	30-105	3	(3,0)
A Survey of American History	70-101	3	(3,0)
A Modern Language		3	(3,0)
General Psychology	51-201	3	(3,0)
†1st Year Basic ROTC			
RPE	57-101	0	(0,1)
SOPHOMORE YEAR—			
Major British Writers	80-201	3	(3,0)
Biology, Chemistry, or Physics		4	(3,2)
History of Western Civilization	70-221	3	(3,0)
A Modern Language		3	(3,0)
Research Design in Psychology	51-203	3	(3,0)
†2nd Year Basic ROTC			
RPE		0	(0,1)
JUNIOR YEAR—			
Experimental Psychology I	51-301	3	(3,0)
Theories of Personality	51-306	3	(3,0)
Introduction to Philosophy	81-201	3	(3,0)
Approved Fine Arts Elective		3	(3,0)
Approved Elective		3	(3,0)
†1st Year Advanced ROTC			
SENIOR YEAR—			
Psychology of Learning and Motivation	51-403	3	(3,0)
Applied Psychology	51-404	3	(3,0)
Psychological Testing	51-407	3	(3,0)
Approved Elective		3	(3,0)
Approved Elective		3	(3,0)
†2nd Year Advanced ROTC			

---

*Represents semester hour credits, lectures, and laboratory hours in that sequence.

†ROTC hours (credit, lecture and/or lab) may vary each semester by military department; however, the total hours which may be applied toward graduation requirements may not exceed 16 semester hours.

††Students well grounded in algebra are encouraged to substitute 30-106 and 30-107.

PSYCHOLOGY MAJOR
Second Semester

RESHMAN YEAR—

omposition and Literature	80-102	3	(3,0)
ollege Mathematics II	30-106	3	(3,0)
Survey of American History	70-102	3	(3,0)
Modern Language		3	(3,0)
evelopmental Psychology	51-202	3	(3,0)
1st Year Basic ROTC			
PE		0	(0,2)

OPHOMORE YEAR—

ajor British Writers	80-202	3	(3,0)
iology, Chemistry, or Physics		4	(3,2)
istory of Western Civilization	70-222	3	(3,0)
Modern Language		3	(3,0)
ocial Psychology	51-305	3	(3,0)
2nd Year Basic ROTC			
PE		0	(0,1)

UNIOR YEAR—

xperimental Psychology II	51-3-2	3	(3,0)
bnormal Psychology	51-304	3	(3,0)
nimal Behavior, or	47-307	3	(2,2)
pproved Science Elective			
pproved Elective		3	(3,0)
pproved Elective		3	(3,0)
1st Year Advanced ROTC			

ENIOR YEAR—

istory and Systems of Psychology	51-405	3	(3,0)
eminar in Contemporary Psychological Issues	51-410	3	(3,0)
pproved Elective		3	(3,0)
pproved Elective		3	(3,0)
pproved Elective		3	(3,0)
2nd Year Advanced ROTC			

OURS REQUIRED FOR GRADUATION: 122 plus the credit hours om successful completion of ROTC for all semesters that a cadet is nrolled at The Citadel.

Department of Aerospace Studies

Professor: Krause
Assistant Professors: Balskus, Byrne, Ferrell, Metts, Raisanen, Rowde
Smiley

Citadel Air Force ROTC courses feature a wide variety of instructi and training opportunities. During the freshman and sophomore yea the curriculum provides students with an understanding of air powe past, present, and future roles in world affairs, as well as its relation national defense. These courses cover the doctrine, mission, and organiz tion of the defense establishment of the United States and examine t development of air power over the past 80 years.

During the junior and senior years, the Air Force ROTC progra draws upon many academic principles. Included are communicative skil and a comprehensive analysis of defense policy and the national defen structure, as well as the meaning of professionalism and profession responsibility, the military justice system, and functions and practices leadership management principles and problem solving.

Course of Instruction

7-101. *The Air Force Today I* One Credit Ho
(First Semester—Fourth Class Year)

This course and its follow-on provide the student with an introducto survey of the United States Air Force. In the first semester, the cour begins with a discussion of the development of the Air Force missio functions, and organizations; Air Force doctrine, and national strategy. continues with a discussion of several of the major air commands an their missions. Students are also given an introduction to communicati skills.

Lecture: two hours.

-102. *The Air Force Today II* One Credit Hour
(Second Semester—Fourth Class Year)

In the second semester this course covers the diverse roles of general urpose and aerospace support forces by examining other major air ommands, and separate operating agencies within the Air Force. This ourse also discusses cooperation with Army and Navy strategic and eneral forces as well as a survey of NATO/Warsaw Pact and USSR/ RC forces. A continuing emphasis is given to communicative skills.

Lecture: two hours.

-201. *The Development of Air Power I* One Credit Hour
(First Semester—Third Class Year)

This course explores two broad areas. First, the course examines the evelopment of air power beginning with the first flights of the Wright rothers and ending with World War II. Second, it directs attention to ıe life of an Air Force officer, discussing such topics as professionalism, :adership, education, and advancement. Communication skills developıent continues.

Lecture: two hours.

-202. *The Development of Air Power II* One Credit Hours
(Second Semester—Third Class Year)

As a follow-on to 7-201, this course continues to examine the evelopment of air power. It stresses a variety of events and elements in ıe history of air power, especially where these provide significant xamples of the last 40 years, ending with an examination of the peaceful mployment of United States air power. Communication skills developıent continues.

Lecture: two hours.

-301. *Air Force Leadership and Management I* Three Credit Hours
(First Semester—Second Class Year)

This integrated management course emphasizes the individual as a ıanager. Emphasis is given to the manager's environment and job, ıotivation, and individual and group behavior. Organizational and ersonal values related to the individual manager's leadership styles are iscussed. Also included is a mini-course on individual communicative kills. The student develops his speaking, listening, and writing skills ırough oral and written presentations of military and current event ɔpics.

Lecture: three hours.

7-302. *Air Force Leadership and Management II* Three Credit Hou
(Second Semester—Second Class year)

This course deals with aspects of the military manager's wo environment beyond the leadership aspect. It discusses, within the context a military organization, management forces involved in organization power, politics, responsibilities, and managerial strategy and tactics. Par discussions and case studies enhance the learning and communicati processes.

Lecture: three hours.

7-401. *U.S. National Security Policy I* Three Credit Hou
(First Semester—First Class Year)

This course studies the policy and process of national securit Specifically, the course reviews the varying U.S. approaches to nation policy, the actors and processes involved in the determination of th policy, and key national security issues. An indepth look at the defens community's involvement in national security policy making is stressed.

Lecture: three hours.

7-402. *U.S. National Security Policy II* Three Credit Hou
(Second Semester—First Class Year)

During the second semester the student continues the study of U. defense policy. This course stresses the officer's role in the militar profession, the changing and demanding role of officership and th military profession, and the impact of professionalism on security polic The course addresses military law, various contemporary issues whic impact national security forces, and essential elements of commissione service.

Department of Biology

epartment Head: Baldwin
rofessors: Baldwin, Crosby, Forsythe, Porcher, Runey, Wallace
ssociate Professors: Bowman, Kelley, Seabury

The Biology Department is structured to offer courses which give the tudent a better understanding of himself, his relationship with his nvironment, and the diversity of life. Enrichment courses with minimum rerequisites are offered in summer and evening programs for interested ndividuals.

B.S. Biology Major

Requirements in the major provide courses in physiology, field biology, escriptive biology, and developmental biology which meet the needs of a ide variety of programs in biology, medicine, secondary school science aching, social work, wildlife or conservation. Additional electives in iology may be selected to fulfill the interests of the individual. reparation for graduate school is encouraged.

The Biology Department participates in the graduate program of The itadel, offering either a major or a minor in biology for the Master of rts in Education degree. The department also participates in the M.S.L egree in marine science offered by the Charleston Consortium of olleges. Individuals interested in these programs should consult the raduate School Catalogue.

Also included within the Department of Biology is the Vector Biology esearch Program, which conducts biological investigations on medically mportant anthropods, with special emphasis on mosquitoes. Opportunities exist for the training and participation in various research projects y both undergraduate and graduate students. Interested students should ontact the head of the Biology Department.

Premedical-Predental Program

The student who is planning to enter medical school, dental schoo veterinary school, or professional school in allied health should consid the B.S. Biology major which will be tailored to his special needs. Tl core curriculum permits the preprofessional student to tailor his plan study to each area of specialty. The large number of electives available the biology curriculum makes it possible for the student to develop tl broad science-humanities background necessary in the medical or dent profession.

Course Descriptions for Biology

47-100. *Orientation in Biological Sciences* One Credit Ho

Required of all freshman biology majors.

Normally offered in the fall semester of each academic year.

A course designed to introduce students to the biological science Topics covered will include the history and philosophy of biology, tl significance of Greek and Latin terms in biological science, and guidan and counseling in effective study methods. Students will also be expose to the fields of biology and the career opportunities in them.

Lecture: one hour.

47-101. *General Biology* Four Credit Hou

Normally offered in the fall semester of each academic year.

The introductory course in biology designed for both the major an non-major. Emphasis is placed on the methods of science, structura molecular and energetic basis of cellular activities, genetic variability an evolution, diversity and life processes in plants and animals and principa of ecology.

Lecture: three hours; laboratory: two hours.

47-102. *General Biology II* Four Credit Hour

Normally offered in the Spring Semester of each academic year.

Prerequisite: 47-101.

Continuation of General Biology I

Lecture: three hours; laboratory: two hours.

47-103. *Introduction to Botany* Four Credit Hour

Offered in both fall and spring semesters.

An introduction to the plant kingdom; the structure, life processes reproduction, heredity, evolution, classification, and biological significanc of plants.

Lecture: three hours; laboratory two hours.

7-104. *Introduction to Zoology* Four Credit Hours

Offered in both fall and spring semesters.

An introduction to the animal kingdom; the structure, life processes, eproduction, heredity, evolution, classification, and biological significance f animals.

Lecture: three hours; laboratory: two hours.

7-203. *Survey of the Plant Kingdom* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

A general survey of the vascular and nonvascular plants. Lecture and boratory experiences will include a study of the characteristics, life ycles, evolutionary trends, ecological importance, and economic value of ach plant group. Both the biology student and the non-major will receive deeper appreciation of plants in their natural and man-made habitats.

Lecture: three hours; laboratory: two hours.

7-204. *Basic Plant Structure* Four Credit Hours

Prerequisites: 47-102.

Elective to all majors.

Normally offered in the spring semester of odd numbered years.

A study of cellular organization and tissue composition in the vegetative nd reproductive organs of vascular plants with corresponding laboratory. his course would benefit those students interested in graduate school, vildlife, forestry and the teaching of science in secondary school.

Lecture: three hours; laboratory: two hours.

7-205. *Cell Biology* Three Credit Hours

Prerequisites: 47-102.

Elective to all majors.

Normally offered in the fall semester of each academic year.

An introduction to the morphological, biochemical and biophysical roperties of protoplasm and their significance in the life processes.

Lecture: three hours.

7-208. *Evolution* Three Credit Hours

Prerequisites: 47-102.

Elective to all majors.

Normally offered in the spring semester of odd-numbered years.

A basic course in the concepts of evolution and population dynamics. The history of evolutionary thought, the processes of organic evolution, and systematics are conducted.

Lecture: three hours.

47-209. *Man and His Environment* Three Credit Hou

Elective to non-biology majors.

Normally offered in the fall semester of odd-numbered years.

A study of the interdependence of man and his environment. Emphas will be on man's place in nature, pollution, man-modified habitats, an environmental protection.

Lecture: three hours per week.

47-301. *Invertebrate Zoology* Four Credit Hou

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of odd-numbered years.

A general study of the invertebrate animals, including taxonom morphology, and ecology.

Lecture: two hours; laboratory: four hours.

47-302. *Comparative Vertebrate Anatomy* Four Credit Hou

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the spring semester of each academic year.

Comparative anatomy of certain vertebrate forms.

Lecture: two hours; laboratory: four hours.

47-303. *Human Anatomy* Three Credit Hour

Prerequisite: 47-101.

Elective to non-biology majors.

Normally offered in the fall semester of each academic year.

Foundation material in mammalian anatomy which has been designe to give an understanding of basic human anatomy. Laboratory 47-305 i optional.

Lecture: three hours.

47-304. *Human Physiology* Three Credit Hour

Prerequisite: 47-101.

Elective to non-biology majors.

Normally offered in the spring semester of each academic year.

An introduction of the basic physics and chemistry of life, including study of the machinery of the regulatory mechanisms of the human body Laboratory 47-306 is optional.

Lecture: three hours.

47-305. *Human Anatomy Laboratory* One Credit Hou

Prerequisite: 47-101.

Corequisite or prerequisite: 47-303.

Elective to non-biology majors.

Normally offered in the fall semester of each academic year.

Laboratory exercises to illustrate the relationships of structure of mammalian anatomy.

Laboratory: two hours.

47-306. *Human Physiology Laboratory* One Credit Hour

Prerequisite: 47-101.

Corequisite or prerequisite: 47-304.

Elective to non-biology majors.

Normally offered in the spring semester of each academic year.

The experiments demonstrating the various physiological processes of life.

Laboratory: two hours.

47-307. *Animal Behavior (Ethology)* Three Credit Hours

Prerequisite: 47-102 or 51-201.

Elective to all majors.

Normally offered in the spring semester of even-numbered years.

This course deals with the description, development, and adaptive nature of behavior in free-living animals. The laboratory will emphasize the description and qualifications of behavior patterns.

Lecture: two hours; laboratory: two hours.

47-308. *Genetics* Four Credit Hours

Prerequisite: 47-102 or permission of the instructor.

Elective to all majors.

Normally offered in the spring semester of each academic year.

A study of inheritance, including mendelian genetics, molecular genetics, changes in chromosome structure and number, cytogenetics, and population genetics.

Lecture: three hours; laboratory: two hours.

47-310. *Microbiology* Four Credit Hours

Prerequisite: 47-102 or approval of department head.

Elective to all majors.

Normally offered in the fall semester of each academic year.

A general study of microorganisms and their importance to man with special emphasis on their fundamental life processes. Includes a brief introduction to epidemiology and immunology.

Lecture: three hours; laboratory: three hours.

47-314. *The Vascular Flora of South Carolina* Four Credit Hours

Prerequisite: 47-102 or approval of instructor.

Elective to all majors.

Normally offered in the fall semester of even-numbered years.

An introductory study of the native vascular flora of South Carolina, emphasizing the identification and collection of native plants. The student will have practice in use of taxonomic keys and in preparation of specimens for The Citadel Herbarium.

Lecture: two hours; laboratory: four hours.

47-315. *Biological Microtechnique and Instrumentation* Three Credit Hours

Prerequisites: 47-102 or permission of the instructor.

Elective to all majors.

Normally offered in the fall semester of even-numbered years.

This course will introduce the student to the techniques of preparing, recording and illustrating biological material for light microscopical studies. The laboratory will stress microtomy, various types of microscopy, cytochemical procedures and photomicrographic techniques and related dark room procedures.

Lecture: two hours; laboratory: two hours.

47-316. *Mycology* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of odd-numbered years.

A study of the morphology, classification, and ecology of the fungi commonly found in the coastal area of South Carolina.

Lecture: three hours; laboratory: three hours.

47-321. *General Entomology* Three Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of odd-numbered years.

An introduction to the study of insects and closely related arthropods, including their ecology, physiology, morphology, taxonomy, adaptations, and immature stages. Laboratory studies will emphasize field collection methods and curatorial techniques.

Lecture: two hours; laboratory: three hours.

47-322. *History of Biology* Three Credit Hours

Prerequisites: 47-102 or permission of the instructor.

Elective to all majors.

Normally offered in the spring semester of odd-numbered years.

Major aspects of the development of biological sciences and their relationship to other scientific disciplines. Special attention will be paid to the development and content of theories and to changes in the methods of biological research.

Lecture: three hours.

47-401. *Embryology* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of odd-numbered years.

Embryology of representative vertebrates, including the amphibian and bird, and additional material on mammals.

Lecture: two hours; laboratory: four hours.

47-402. *Descriptive Histology* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the spring semester of even-numbered years.

A detailed study of the chief types of animal tissues and a description of the histology and organs. Laboratory work includes microscopic study of cells, tissues, and organs of animals, and training in the preparation of microscopic slides.

Lecture: two hours; laboratory: four hours.

47-403. *Animal Physiology* Four Credit Hours

Prerequisites: 47-102 and 40-208 (Organic Chemistry).

Elective to all majors.

Normally offered in the fall semester of each academic year.

A systematic study of the general physiology of animal organ systems.

Lecture: three hours; laboratory: three hours.

This course formerly was entitled Mammalian Physiology.

47-404. *Plant Physiology* Four Credit Hours

Prerequisites: 47-102 and 47-205.

Elective to all majors.

Normally offered in the spring semester of odd-numbered years.

A comprehensive study of the physiological processes of living plants. This course is designed to include both inorganic and organic metabolism while emphasizing the relationships of these processes to the entire plant.

Lecture: three hours; laboratory: three hours.

47-405. *General Parasitology* Three Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of even-numbered years.

Taxonomy, morphology, adaptation, and ecology of parasites affecting man and domestic animals. Life history, vectors, and controls are emphasized.

Lecture: two hours; laboratory: two hours.

47-406. *Ecology* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the spring semester of even-numbered years.

An introduction to the study of biological interrelationships and the effects of the environment on the structure and function of animal populations. Laboratory will emphasize methods and materials of ecological investigations.

Lecture: two hours; laboratory: four hours.

47-408. *Ornithology* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the spring semester of odd-numbered years.

A study of the structure, function, and ecology of birds. Field trips and bird specimens will give students a working knowledge of birds common to South Carolina.

Lecture: two hours; laboratory: four hours.

47-409. *Marine Biology* Four Credit Hours

Prerequisites: 47-102.

Elective to all juniors and seniors.

Normally offered in the spring semester of odd-numbered years.

The lectures cover major ecological factors and the fundamentals of oceanography. Laboratory work stresses the familiarities with species, taxonomic methods, sampling procedures, experimental design, use of equipment, and data handling.

Lecture: two hours; laboratory: four hours.

47-410. *Vertebrate Natural History* Four Credit Hours

Prerequisite: 47-102.

Elective to all majors.

Normally offered in the fall semester of even-numbered years.

An introduction to the classification, ecology, evolution, and distribution of the vertebrates. Laboratory with emphasis on identification and field study techniques, especially with respect to the vertebrates of South Carolina.

Lecture: three hours; laboratory: two hours.

47-411. *Senior Seminar* One Credit Hour

Required of all biology majors.

Normally offered in both fall and spring semesters.

A group study of current topics of biological interest.

Lecture: one hour.

47-412. *Special Topics in Biology* Three Credit Hours

Prerequisite: permission of the instructor.

Offered on demand.

A course designed for the study of specialized topics in modern biology.

Lecture: three hours.

47-419. *Economic Botany* Three Credit Hours

Prerequisite: 47-102 or approval of instructor.

Elective to all majors.

Normally offered in the spring semester of odd-numbered years.

An introductory course in economic botany devoted to the consideration of plants which are useful or harmful to man; their origins and history, botanical relationships, chemical constituents which make them economically important, and their roles in prehistoric and modern cultures and civilizations.

Lecture: three hours.

47-420. *Senior Research Project* Three Credit Hours

Prerequisite: permission of department head and supervising instructor.

Normally offered in both fall and spring semesters.

Independent study in undergraduate research for serious students planning graduate study.

47-425. *Microbial Physiology* Four Credit Hours

Prerequisite: 47-102 or permission of the instructor. 40-208 and 47-310 are recommended.

Elective to all majors.

Normally offered in the spring semester of even-numbered years.

An in-depth study of metabolic processes of microorganisms and how these processes may interact on other organisms.

Lecture: three hours; laboratory: two hours.

47-426. *Freshwater Biology* Four Credit Hours

Prerequisites: 47-102.

Elective to all majors.

Normally offered in the spring semester of even-numbered years.

The study of freshwater organisms and their environment. Instruction will cover the biological diversity, ecological and physiological adaptations and the physical setting of freshwater systems. Local systems of interest include large coastal rivers and lakes, upper portions of estuaries and old rice fields.

Lecture: two hours; laboratory: four hours.

47-490. *Advanced Field Ecology* Five Credit Hours

Prerequisites: 6 semester hours of field biology and permission of the instructor.

Offered on demand during the summer session.

A traveling seminar and field course to a designated biome or special natural area. Three weeks of directed reading and written preparation are required prior to participation in the field expedition. Field expeditions will normally require a minimum of two weeks' travel time, depending upon the habitats selected and the type of travel required. All expedition participants will be required to prepare a collection of biological specimens that will become part of the permanent collection of the Department of Biology. In addition of tuition costs, students must bear all travel costs (i.e., room, board, and incidental expenses) while on expedition. General Ecology, General Entomology, Vascular Flora, Mycology, and Ornithology are strongly suggested as possible preparatory prerequisites.

Lecture, reading, and written preparation: three weeks.

Expedition time: two weeks.

47-492. *Medical Entomology* Four Credit Hours

Prerequisite: 47-321 or permission of the instructor.

Offered on demand.

A course considering the role of insects and closely related arthropods in the transmission, dissemination, and causation of disease with special emphasis on the diseases of man. This course is designed to provide training in the identification of the medically important arthropods, the disease with which they are associated, ventor survey techniques, and the general ecology of disease vectors.

Lecture: three hours; laboratory: two hours.

Department of Business Administration

Department Head: Dhir
The Robert A. Jolley Professor of Business Administration: King
Professors: Wittschen, Spivey, Dhir, King
Associate Professors: Whitney, Rebber, Craig, Pokryfka, Evans, Bebensee, Strauch, Moore, Kindel
Assistant Professors: Alford, Mahoney, Haughey, Hite, Blizzard, Sharbrough, Sparks, Woolsey

The Department of Business Administration offers courses designed to provide students with the concepts, theories, tools, and experiences necessary to prepare them for professional managerial careers in both the private and public sectors of our economy.

A student majoring in business administration completes a three-phase program of study. The first phase consists of basic courses in mathematics, science, social services, and the humanities. Upon completion of these foundation courses, the student undertakes the second phase, which consists of a core curriculum of required courses in business administration. Included in this phase are courses related to all aspects of the business environment, including accounting, economics, management, marketing, finance, and business law. The third phase, beginning in the junior year, is comprised of business and nonbusiness electives. These electives are intended to allow the student sufficient flexibility to examine broad administrative concepts and relationships and to develop an in-depth understanding of specific areas of personal interest.

The Department of Business Administration also offers a program of study leading to the degree of Master of Business Administration. Persons interested in this program, which is offered only through evening classes, should consult the Graduate Programs catalogue for further information.

5-201. *Economic Origins and Principles* Three Credit Hours

Required of all business administration sophomores.

A study of the origins of capitalism and the development of economic institutions; an introduction to economic principles, including an analysis to the determination of national income and its fluctuations, an introduction to money, banking, and government finance.

5-202. *Economic Principles and Problems* Three Credit Hours

Prerequisite: 5-201.

Required of all business administration sophomores.

A study of value and price, including factors affecting short- and long-run adjustments of the individual firm with respect to prices, costs, and levels of production; value and price determination; market adjustments in competition and monopoly; distribution of income; and current economic problems.

5-205. *Business Statistics I* Three Credit Hours

Prerequisite: completion of required freshman mathematics.

This course deals with the organization of statistical injury and the presentation of its results in tabular and graphic form. Also covered are frequency distributions (with emphasis on the normal), measures of central tendencies, measures of dispersion, theories of sampling and probability, time series, and estimation and hypothesis testing.

5-211. *Accounting Principles and Practices I* Three Credit Hours

Required of all business administration sophomores.

A study of the fundamentals of accounting, including the analysis and recording of business transactions and the preparation of financial statements.

5-212. *Accounting Principles and Practice II* Three Credit Hours

Prerequisite: 5-211.

Required of all business administration sophomores.

A continuation of 5-211 with emphasis on accounting systems, partnerships, corporations, and cost accounting theory.

5-300. *Intermediate Accounting I* Three Credit Hours

Prerequisite: 5-212.

Elective for business administration majors and others.

An emphasis of the balance sheet and the income statement with particular emphasis on the technique of evaluation of items comprising these statements.

5-301. *Intermediate Accounting II* Three Credit Hours

Prerequisite: 5-300.

Elective for business administration majors and others.

A continuation of 5-300 with emphasis on balance sheet liabilities and apital, the statement of changes in financial position, and the analysis of nancial statements.

-302. *Managerial Accounting* Three Credit Hours

Prerequisite: 5-212.

Elective for business administration majors and others.

A study of the accumulation and analysis of accounting data for ianagement control and decision-making.

-305. *Business Law I* Three Credit Hours

Required of all business administration juniors.

A study of the law as it relates to business, including court procedure, ıses, decisions, and the Uniform Commercial Code, with primary mphasis on contracts and negotiable instruments.

-307. *Principles of Labor* Three Credit Hours

Prerequisite: 5-202.

Elective for business administration majors and others.

An analysis of the worker's position in modern industry and the effects f industrial production on the worker's social position; introduction to ie problems of wages, hours, working conditions, child labor, industrial ccidents, unemployment, trade unions, and collective bargaining; economic problems of the worker under current labor legislation.

-308. *General Insurance* Three Credit Hours

Elective for business administration majors and others.

A course in predictable business risks and the methods of minimizing iese risks through insurance; intelligent planning of a program of overages and rates of life, fire, and casualty insurance.

-309. *Marketing Principles* Three Credit Hours

Prerequisite: 5-202.

Required of all business administration juniors.

The activities necessary to effect the distribution of goods from roducer to consumer, consumer behavior, the marketing institutions, the iarketing functions, examination of important marketing policy and roblem areas.

-311. *Government Finance* Three Credit Hours

Prerequisite: 5-202.

Elective for business administration majors and others.

A survey of the theory and practice of taxation, public revenue, public xpenditure, and public debt; budgeting and fiscal policy; general rinciples and practices of income taxes, consumption taxes, death taxes, nd corporation and other business taxes.

5-312. *Taxation* Three Credit Hou
Prerequisite: 5-212.
Required of all business administration juniors.

A study of the basic principles of income taxation, including thorough analysis of the present Federal law dealing with both individua and corporations.

5-313. *Intermediate Microeconomic Theory* Three Credit Hou
Prerequisite: 5-202.
Elective for business administration majors and others.

A more advanced treatment of value theory. The production an consumption activities of individual economic units are analyzed. Area of concentration include the theory of consumer behavior, cost analysi production and distribution theory, general equilibrium, and welfar criteria.

5-314. *Intermediate Macroeconomic Theory* Three Credit Hour
Prerequisite: 5-202.
Elective for business administration majors and others.

A course designed to give the student a comprehensive understandin of national income, its measurement and analysis, including a study o business cycles, economic growth, and economic policies.

5-315. *Business Statistics II* Three Credit Hour
Prerequisite: 5-205.
Elective for business administration majors and others.

A continuation of 5-205, including an introduction to t, Poisson, an Chi-square distributions, tests of significance, regression and correlatio analysis, index numbers, and simple and multiple correlation, as well as more sophisticated exploration of sampling and probability theory.

5-316. *Communications in Business* Three Credit Hour
Prerequisite: 5-202.
Required of business administration juniors.

A study of communication in business as related primarily to the writing of business reports, research procedures, and business letters. The course is designed to stress clarity, conciseness, and logical presentation.

5-318. *Business Law II* Three Credit Hours
Prerequisite: 5-305.
Elective for business administration majors and others.

A continuation of Business Law I, 5-305, with emphasis on creditors' rights, agency and employment, and personal and real property.

321. *Business Finance* Three Credit Hours

Prerequisite: 5-212.

Required of all business administration juniors.

A survey of forms of business organization and of business financial olitics and methods of planning and control; an analysis of the factors fecting the capital structure of corporation and the proper use of fferent types of securities; budgetary procedures.

322. *Business Finance Cases and Applications* Three Credit Hours

Prerequisite: 5-321.

Elective for business administration juniors.

Principles and practices of the financing of non-financial corporations; nphasis on the role of the finance executive in a business organization; oblems and cases to demonstrate solutions to managerial decisions volving cash flow and capital structure analysis.

325. *Principles of Management* Three Credit Hours

Required of all business administration juniors.

A survey of the evolutionary and comprehensive principles of management applicable to all forms of business; and exploration of the anagement process as the performance of planning, organizing, directg, and controlling complex business situations.

326. *Principles of Real Estate* Three Credit Hours

Elective for business administration majors and others.

This course provides a basic understanding of the legal, financial, and hical rights and obligations of all parties to a real estate transaction. opics covered include the organization and functioning of real estate stitutions, real estate mathematics and finance, marketing and brokerge, property appraisal, property management, residential constructions, nd closing cost estimation. In addition, personal and professional evelopment wil be examined for the benefit of those contemplating a areer in real estate.

328. *Organization Theory and Behavior* Three Credit Hours

Required of business administration juniors; elective to others.

An examination of human behavior in business administrations. oncepts and skills related to sound management are developed, and pplication of recent theories to organizational practice is discussed.

-330. *Personal Finance* Three Credit Hours

Elective for non-business majors.

A course dealing with aspects of family finance, including budgeting, savings programs, insurance protection, installment buying, home pl ning and financing, investments in stocks and bonds, and estate planning

5-401. *Cost Accounting* Three Credit Ho

Prerequisite: 5-300.

Elective for business administration majors.

A course in the principles of cost accounting, including the accounti for materials, labor, and overhead under the job-order, process, a standard cost systems.

5-402. *Advanced Accounting Problems* Three Credit Hou

Prerequisite: 5-300.

Elective for business administration majors.

A study of advanced accounting problems relating to partnershi consolidations, consignments, installment sales, branch accounting, ban ruptcy, and fund accounting.

5-404. *Investments* Three Credit Hou

Prerequisite: 5-322.

Elective for business administration majors.

A study in personal finance and security analysis; buying and selli procedure; stock exchanges; and the relative merits of types of securiti as an investment or speculation.

5-405. *Marketing Management* Three Credit Hou

Prerequisite: 5-309.

Elective for business administration seniors.

Marketing management primarily for the manufacturer; planning th product; planning for promotion; investigation of the market; pricing an price policy; planning the sales organization; management of sal personnel.

5-406. *Transportation* Three Credit Hou

Prerequisite: 5-309.

Elective for business administration majors.

A study of the history, geography, and economics of all forms c transportation; transport pricing; public regulations; public policy; curren problems such as competition between modes of transportation.

5-407. *Money and Banking* Three Credit Hour

Prerequisites: 5-201 and 5-202.

Elective for business administration.

The nature and functions of money; the various monetary standards the development of our monetary system; the factors affecting the valu

money; methods and objectives of money and credit control; interna-
nal exchange; analysis of recent developments in money and credit.

408. *Bank Management* Three Credit Hours
Prerequisite: 5-407.
Elective for business administration majors.
A study of the development and structure of the commercial banking
stem; a description and analysis of the operations of our commercial
nks and an investigation of the techniques and principles followed by
mmercial banks in the performance of their many functions.

409. *Personnel Mangement* Three Credit Hours
Prerequisite: 5-325.
Elective for business administration majors and others.
A contemporary course in the management of human resources,
signed to recognize and evaluate the change in the behavioral science
proach in the study of personnel administration, to include the
inciples and practices of manpower development and performance
provement.

410. *Production Management* Three Credit Hours
Prerequisites: 5-202, 5-205, 5-212, and 5-325.
Required of all business administration seniors.
Analysis of the production function as the planning, organizing,
recting, and controlling of the required activities and resources neces-
ry to produce products and services. Discussion of managerial problems
the areas of plant design and location, production standards, opera-
ons planning and control, product development, materials handling,
d inventory control.

412. *International Trade* Three Credit Hours
Prerequisite: 5-202.
Elective for business administration majors and others.
An analysis of the theoretical principles underlying international
ecializing and exchange, the making of international payments, the
lation of international payments to national income, and the application
these principles to recent historical developments and to current
ational policies. An introduction survey is provided to the network,
mposition, and sources of world trade.

-416. *Auditing* Three Credit Hours
Prerequisite: 5-300.
Elective for business administration majors and others.
A study of auditing procedures with the emphasis on how to conduct

an audit in a logical, proper manner, applying acceptable auditi standards. A coverage of internal control and accounting knowledge applied to auditing.

5-418. *Marketing Problems* Three Credit Hou

Prerequisite: 5-309.

Elective for business administration majors.

An advanced course in marketing management with emphasis on cas and problems involving marketing research, promotion, distributio consumer behavior, and government regulations.

5-422. *Business Policy* Three Credit Hou

Prerequisite: senior standing in business administration.

Required of all business administration seniors.

A capstone course designed to give the student practice in integratin the numerous theory courses in all phases of business management. In th role of a top manager, the student applies these theories to the solution problems in practical business cases. Throughout the semester the studen makes decisions to direct the operation of a simulated business in competitive market.

5-430-435. *Seminar in Business Administration* Three Credit Hour

Prerequisite: approval of course instructor and department head.

Elective for business administration majors.

This course is designed to provide students of exceptional ability an background with the opportunity to explore a variety of advanced business-oriented, analytical techniques. Specified topics covered withi this course will be at the discretion of the instructor, under th supervision of the department head.

Department of Chemistry

Department Head: Jumper
Professors: Jumper, Ballentine, May
Assistant Professors: Rushing, Braun, Blanton, Richardson

The course of study for students majoring in chemistry is designed to prepare them to enroll as graduate students in full standing at leading universities; to provide the foundation for pursuing careers in medicine, dentistry, and other professions; and to fill positions as chemists in ndustrial laboratories.

The courses of study embody training in the four fundamental subdivisions of the science: inorganic, organic, analytical, and physical chemistry.

The department occupies Byrd Hall, which was completed in 1968. Within its 52,000 square feet, this facility houses a lecture theater; aboratories; a centrally located library; and conveniently located stockrooms, preparation rooms, and balance rooms.

A chapter of Student Affiliates of the American Chemical Society is active at The Citadel. The Department of Chemistry is accredited by the American Chemical Society.

B.S. Chemistry Major

Students majoring in the B.S. Chemistry program are required to take all of the courses offered by the department for chemistry majors and also 30-131 (Analytic Geometry and Calculus I), 30-132 (Analytic Geometry and Calculus II), 30-231 (Analytic Geometry and Calculus III), and 30-232 (Differential Equations); two years (four semesters) of a modern language; and 26-210/260, 26-211/261, and 26-212/262 (Physics for Engineers and Physical Scientists).

B.A. Chemistry Major

The B.A. Chemistry course of study permits many elective courses ar provides great flexibility to the student to select courses which wi provide him with the particular education suited to his needs. Th candidate must take 41 hours in chemistry, namely, 40-101, 40-102, 4 111, 40-112, 40-207, 40-208, 40-217, 40-218, 40-300, 40-302, 40-305, 4 306, 40-308, 40-401, 40-429, 40-430, and two chemistry electives; 1 credits in English, namely, 80-101, 80-102, 80-201, 80-202, and 80-411; credits in physics, namely, 26-205/255 and 26-206/256; 30-106; 30-10 (College Mathematics II & III); 70-101 and 70-102 (A Survey c American History); 12 credits in a modern language; and 9 genera electives.

Premedical Program

Students who plan to enter medical school or allied professional school such as dental or veterinary school should consider the B.A Chemistr program and choose such electives as 47-302 (Comparative Anatomy) an 47-401 (Embryology). It is also strongly recommended that they take, i possible, 51-201 (General Psychology), 51-304 (Abnormal Psychology), 47 308 (Genetics), 47-402 (Descriptive Histology), and 47-403 (Animal Physiology). Students who plan to enter medical school upon completion o their baccalaureate degrees should acquaint themselves with requirements o the medical schools of their choice and tailor their programs accordingly. An extremely worthwhile reference to the entrance requirements for all medical schools in the United States and Canada is *Medical School Admission Requirements* published each year by the Association of American Medical Colleges, One DuPont Circle, N.W., Washington, D.C. 20036.

All students who plan to attend medical school not only must complete certain prescribed work but also must show an aptitude for medical studies. The Medical College Admissions Test, prepared by the Association of American Medical Colleges, must be taken by all students who expect to apply for admission to a medical college.

In addition to students wishing to pursue higher education in medicine, dentistry, or veterinary medicine, those students wishing to pursue a career in secondary school chemistry teaching or other areas such as chemical sales which use a background of chemical training should take the B.A. Chemistry program.

Requirements for Non-Science Students

Students majoring in an area other than a science may take chemistry to fulfill their science requirement; in this case, they must complete a four-course set, either 40-101/111 and 40-102/112 or 40-103/113 and 40-104/114.

40-101. *General Chemistry* Three Credit Hours

Corequisite or Prerequisite: 40-111.

Required of all freshmen majoring in the sciences, engineering, or B.S. n Mathematics; elective to others.

Theoretical and descriptive chemistry, including the elements of modern chemical theory and discussion of some of the more common industrial processes. Electronic calculators with logarithmic capability are required.

Lectures and recitations: three hours a week.

40-102. *General Chemistry* Three Credit Hours

Prerequisites: 40-101 and 40-111.

Corequisite or Prerequisite: 40-112.

Required of all freshmen majoring in mathematics, civil engineering, or the sciences; elective to others.

A continuation of 40-101 with emphasis on the theoretical aspects of processes. Electronic calculators with logarithmic capability are required.

Lectures and recitations: three hours a week.

40-103. *Introduction to Chemistry* Three Credit Hours

Corequisite or Prerequisite: 40-113.

For non-science majors only.

The first semester of a terminal course designed for students who do not expect to take any other course in chemistry. The course will cover the essentials of chemistry on a less mathematical level than 40-101. Chemical processes of products used in everyday life will be stressed.

Lecture: three hours a week.

40-104. *Introduction to Chemistry* Three Credit Hours

Prerequisites: 40-103 and 40-113.

Corequisite or Prerequisite: 40-114.

For non-science majors only.

The concluding semester of a terminal course in chemistry designed for students who do not expect to take any other course in chemistry. Among the topics to be covered will be the relationship of chemistry to ecology, the uses and abuses of drugs, the role of chemistry in modern manufacturing processes.

Lecture: three hours a week.

40-106. *Principles of Chemistry* Three Credit Hour

Prerequisites: 40-101 and 40-111.

For electrical engineering majors only.

A continuation of 40-101, but restricted to electrical engineering majors only, with emphasis on the theoretical aspects of chemistry and discussion of some of the more common industrial processes. Electronic calculators with logarithmic capability are required.

Lectures and recitations: three hours a week.

40-111. *General Chemistry Laboratory* One Credit Hour

Prerequisite or Corequisite: 40-101.

Required of all freshmen majoring in the sciences, engineering, or mathematics; elective to others.

This laboratory course closely parallels the lecture material in 40-101. Emphasis will be placed on quantitative experiments showing the stoichiometric relationships in chemical reactions.

Laboratory: two hours a week.

40-112. *General Chemistry Laboratory* One Credit Hour

Prerequisites: 40-101 and 40-111.

Corequisite or Prerequisite: 40-102.

Required of all freshmen majoring in the sciences, civil engineering, or mathematics.

Fundamental techniques in qualitative and quantitative analysis.

Laboratory: two hours a week.

40-113. *Introduction to Chemistry Laboratory* One Credit Hour

Prerequisite or Corequisite: 40-103.

An introduction to laboratory work. Experiments will parallel, as closely as possible, the material covered in 40-103. Emphasis will be placed on basic laboratory techniques. Demonstrations will be used to illustrate important chemical concepts.

Laboratory: two hours a week.

40-114. *Introduction to Chemical Laboratory* One Credit Hour

Prerequisites: 40-103 and 40-113.

Corequisite or Prerequisite: 40-104.

A continuation of 40-113. Experiments and demonstrations will parallel, as closely as possible, the material covered in 40-104.

Laboratory: two hours a week.

40-207. *Organic Chemistry* Three Credit Hours

Prerequisites: 40-102 and 40-112.

Corequisite or Prerequisite: 40-217.

Required of all sophomores majoring in chemistry.

A study of the aliphatic and aromatic series of hydrocarbons and their derivatives with emphasis on reaction mechanisms and interconversions among the various classes of compounds.

Lecture: three hours a week.

40-208. *Organic Chemistry* Three Credit Hours

Prerequisites: 40-207 and 40-217.

Corequisite or Prerequisite: 40-218.

A continuation of 40-207.

Lecture: three hours a week.

40-217. *Organic Chemistry Laboratory* One Credit

Corequisite or Prerequisite: 40-207.

A course which emphasizes the development of skill in the use of basic laboratory techniques through the completion of a series of experiments involving various types of reactions such as substitution, elimination, and addition reactions with an introduction to modern instrumentation such as the DIR spectrophotometer, gas chromatograph, and NMR spectrometer.

Laboratory: three hours a week.

40-218. *Organic Chemistry Laboratory* One Credit Hour

Prerequisites: 40-207 and 40-217.

Corequisite or Prerequisite: 40-208.

A continuation of 40-217 with the emphasis on the synthesis, reactions, and identification of the various classes of organic compounds.

Laboratory: three hours a week.

40-300. *Quantitative Analysis* Four Credit Hours

Prerequisites: 30-107 or equivalent or permission of the department head.

Required of all juniors majoring in chemistry; elective to others.

Emphasis is placed on the chemical principles involved in titrimetry and gravimetry—the classical methods of quantitative analysis. In addition, some modern methods such as direct potentiometry, visible spectrophotometry, and the use of ion-exchange resins are discussed. Laboratory includes practice in titrimetry, gravimetry, potentiometry, visible spectrophotometry, and column chromatography.

Lecture: two hours a week; laboratory: three hours a week; recitation: one hour a week.

40-302. *Instrumental Methods* Four Credit Hours

Prerequisites: 40-300 and 40-305, or permission of the department head.

Corequisite: 40-306.

Required of all juniors majoring in chemistry; elective to others.

Modern instrumental methods of analysis are discussed, with emphasis on the physical or chemical principles involved in the method, design of analytical instruments, and treatment of analytical data. Laboratory work provides practice in the three major areas of instrumental analysis—chromatography, electrochemistry, and spectroscopy.

Lecture: two hours a week; laboratory: four hours a week.

40-305 and 40-306. *Physical Chemistry* Three Credit Hours Each Semester

Prerequisites: 30-132 or 30-107 and 26-211/261 or 26-206/256.

Corequisite: 40-300.

Required of all juniors majoring in chemistry; elective to others.

A study of the properties of solids, liquids, and gases, and of their relation to chemical constitution.

Lecture: three hours a week.

40-308. *Chemical Literature* One Credit Hour

Required of all chemistry majors; elective to others.

An introduction to the effective use of the chemical research literature with emphasis on the primary, secondary and tertiary sources.

Lecture: one hour a week.

*40-309. *Special Topics in Analytical Chemistry* Three Credit Hours

Prerequisites: 40-300 and 26-206/256 or 26-211/261.

Corequisite or Prerequisite: 40-302.

An elective course designed to familiarize students with the entire field of analytical chemistry with emphasis on modern methods of analysis.

Lecture: three hours a week.

*40-310. *Survey of Nuclear Science* Three Credit Hours

Prerequisites: 40-300, 30-106, and 30-107 or equivalents, 26-206/256 or equivalent, or permission of the department head.

Elective course; not open to physics majors.

A survey of the field of nuclear science particularly as applied to chemistry.

Lecture: three hours a week.

*Offered when demand warrants

40-315 and 40-316. *Physical Chemistry Laboratory* One Credit Hour Each Semester

Prerequisite: 30-232 or 30-234.

Corequisites or Prerequisites: 40-305 and 40-306.

Required of all juniors majoring in B.S. Chemistry; elective to others.

This laboratory course is closely correlated with the lecture work in 40-305 and 40-306. It is designed to provide an instruction of the basic laboratory methods of Physical Chemistry, and to illustrate principles of thermodynamics, equilibrium, and kinetics.

Laboratory: three hours a week.

40-401 *Basic Inorganic Chemistry* Three Credit Hours

Prerequisites: 40-208.

Required of all BA and BS chemistry majors.

An introduction to the systematic chemistry of the elements and the structures and reactions of their compounds. It will include discussion of main group elements, coordination complexes, and organo-metallic compounds. Bonding theories which describe the structure and reactivity of compounds will also be discussed.

Lecture: three hours a week.

40-402 *Physical Inorganic Chemistry* Three Credit Hours

Prerequisites: 40-306 and 40-401

Required of all BS chemistry majors; elective to others.

An introduction to quantum mechanical applications in chemistry with particular emphasis on atomic structure, bonding and inorganic systems. Other topics include spectroscopy, symmetry, magnetism, and kinetics of inorganic reactions.

Lecture: three hours a week.

40-403. *Special Topics in Organic Chemistry* Three Credit Hours

Prerequisites: 40-207, 40-208, 40-217, and 40-218.

Required of B.S. Chemistry majors; elective to others.

A study of certain topics not covered in the introductory course including carbohydrates, amino acids, peptides and proteins, terpenes, heterocylic compounds, and some sterols and steroids, nuclear magnetic resonance spectroscopy, and mass spectra.

Lecture: three hours a week.

40-404. *Advanced Topics in Organic Chemistry* Three Credit Hours

Prerequisites: 40-207, 40-208, 40-217, and 40-218.

Elective course.

Pericyclic reactions, photochemistry, ultraviolet and infrared spectroscopy, and such classical topics as dicarboxylic acids, hydroxy acids, keto acids, and polynuclear hydrocarbons.

Lecture: three hours a week.

40-408. *Qualitative Organic Analysis* Four Credit Hours

Prerequisites: 40-207, 40-208, 40-217, and 40-218.

Required of all seniors majoring in B.S. Chemistry; elective to others.

The classification, the study of type reactions, and the identification of pure organic compounds and mixtures of organic compounds.

Lecture: one hour a week; laboratory: six hours a week.

40-409. *Biochemistry* Three Credit Hours

Prerequisites: 40-207, 40-208, 40-217, and 40-218.

Elective course.

An overview of the entire field of biochemistry covering amino acids and proteins, enzymes and coenzymes, lipids, nucleic acid structure, vitamins and minerals, nutrition, and blood and body fluids.

Lecture: three hours a week.

40-412. *Inorganic Preparations* One Credit Hour

Prerequisites: 40-302 and 40-305.

Required of all seniors majoring in B.S. Chemistry.

Techniques employed in several widely different inorganic syntheses.

Laboratory: three hours a week.

40-414. *Chemical Aspects of Industrial Waste Treatment* Three Credit Hours

Prerequisites: junior or senior standing in sciences/engineering or permission of instructor.

Elective course.

Introduction to the sources and effects of water pollution; stream and plant surveys; sampling and analytical procedures; principles and applications of physical, chemical, and biological processes used in reducing or eliminating industrial water pollution.

Lecture: three hours a week.

40-419. *Senior Research* Two Credit Hours

Required of all B.S. Chemistry majors; elective to others with permission of the department head.

An introduction to research, including the library search on a topic of the student's choosing. A written report will be required. All work will be supervised by two members of the Chemistry Department faculty.

40-420. *Senior Research Project* One Credit Hour

Required of all B.S. Chemistry majors; elective to others with permission of the department head.

A laboratory research project and accompanying report on an approved topic of the student's choosing. All work will be supervised by two members of the Chemistry Department faculty.

40-429. *Senior Seminar* One Credit Hour

Required of all senior chemistry majors.

A group study of current topics of chemical interest. Senior chemistry majors will present topics of their choice to the Chemistry Department faculty and other chemistry majors.

40-430. *Senior Seminar* Zero Credit Hours

Required of all senior chemistry majors.

A continuation of 40-429.

Geology

The geology division operates within the administration of the Chemistry Department to offer electives to upperclassmen and a somewhat modified elementary geology course, 45-303, for juniors in civil engineering.

Geological investigations and the subject matter of geology cover many fields directly related to the understanding of the physical earth and universe, the biological earth, and the economics of societies. Facilities are available within the Chemistry Department at The Citadel for student research in geochemistry at the senior level.

45-201. *Introduction to Earth Science I* Four Credit Hours

Elective to upperclassmen.

A study of the materials and processes of the earth including minerals and rocks, weathering and soils, mass wasting, surface and ground water, glaciers, deserts, earthquakes, plate tectonics, volcanoes, crustal deformation and mountain building, geochronology, fossils, and geologic history of the earth.

Lecture: three hours a week; laboratory: two hours a week.

45-202. *Introduction to Earth Science II* Four Credit Hours

Prerequisite: 45-201 or 45-303 or permission of the instructor.

Elective to upperclassmen.

A study of oceans, continental margins, sediments, currents, tides, waves, shoreline features; weather and climate, atmospheric moisture, pressure and wind, hurricanes and tornadoes, air pollution, weather modification; astronomy, earth/moon relations, solar systems, stellar properties and the origin of the universe.

Lecture: three hours a week; laboratory: two hours a week.

45-303. *Geology for Engineers* Three Credit Hours

Required of and limited to juniors in civil engineering.

Minerals and rocks; structural geology; surface and ground water; other processes which shape the surface of the earth and their influence on engineering practice; earthquakes; geophysical exploration; geologic maps.

Lecture: two hours a week; laboratory: two hours a week.

45-304. *Marine Geology* Three Credit Hours

Prerequisite: permission of the instructor.

Not to be substituted for 45-202.

Elective to upperclassmen.

Techniques of physical oceanography; shapes and evolution of ocean basins and floors; variations in properties of sea water; waves; tides; currents; beach erosion; estuaries; sedimentation; changes in sea level.

Lecture: three hours a week (spring semester—odd numbered years).

45-308. *Environmental Geology* Three Credit Hours

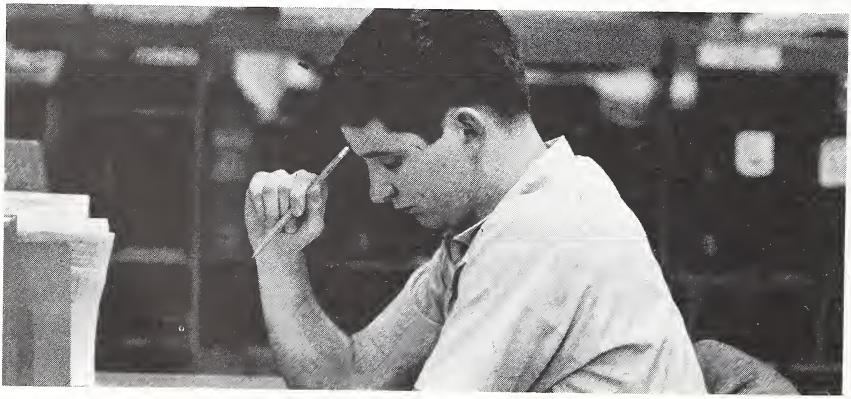
Prerequisite: none (45-201 or 45-303 is recommended).

Not to be substituted for 45-202.

Elective to upperclassmen.

A study of the relationship between man and his geologic environment including such topics as hurricanes, floods, water and air pollution, energy and mineral resources, volcanic activity, and earthquakes.

Lecture: three hours a week.



Department of Civil Engineering

epartment Head: Lindbergh
olonel Louis S. LeTellier Distinguished Visiting Professor: Saxe
ofessors: Evans, Lindbergh
ssociate Professors: Dion, Anessi, Stout
ssistant Professors: Woo, Brannan

The Civil Engineering Department's objective is to provide the basic
ucational requirements of the profession of civil engineering, to prepare
idents to pursue advanced work in graduate schools of engineering, and
insure an educational background broad enough to meet the require-
ents of good citizenship and service in other fields requiring leadership
d problem-solving ability.

The four-year program begins with courses which provide a foundation
knowledge and skill in the basic arts and sciences. Limited specializa-
n in engineering starts during the sophomore year. In the junior and
nior years, the time is devoted essentially to basic professional subjects.
hroughout the four years, the program emphasizes the development of
bits of orderly study, investigation, sound reasoning, and problem-
lving, rather than the mere acquisition of factual information. It is
essed that an engineer is a professional thoroughly grounded in
gineering science and technology but also aware of the social,
onomic, ethical, and ecological implications of his professional activities.

Students who are on academic probation will not be permitted to
roll in upper level courses offered by the Civil Engineering Department
e. junior and senior level classes). This requires minimum cumulative
adepoint ratios of 1.70 and 1.90 respectively to enroll in junior and senior
vel courses offered by the Civil Engineering Department.

The civil engineering curriculum is professionally accredited by the
ngineering Accreditation Commission of the Accreditation Board for
ngineering and Technology (ABET).

Each year the curriculum is augmented by off-campus educators a engineers who lecture and moderate seminars in engineering specialtie Students' sources of knowledge are broadened by participation in the seminars and the student chapters of the American Society of Ci Engineers, Tau Beta Pi (honorary engineering society), Sigma Iota Del (honorary civil engineering society), and the Society of American Milita Engineers.

LeTellier Hall, the main engineering building, is newly renovated. was specially designed for the needs of civil engineering education a contains, in addition to laboratories and classrooms, the John Anders Memorial Library (containing engineering technical works, periodical and reference materials); an assembly room with appropriate audiovisu aids for special lectures and society meetings; well-equipped and wel lighted drafting rooms; and a computer center equipped with twenty-fo work stations which access a VAX 11/750, and three CRT termina through which a main-frame computer at the University of Sout Carolina is accessed. In addition, microcomputers are available throug out the department.

Concrete Laboratory: A curing room, mixing equipment, air entraini measuring apparatus, scales, and other minor equipment are provided i this laboratory. Testing is done with Materials Laboratory equipment.

Materials Testing Laboratory: Major items of equipment include: 400,000-pound universal hydraulic testing machine with a clearance of feet for column testing and with a 36-inch-wide working platform; 60,000-pound hydraulic universal testing machine with automatic stres train recorder; a 10,000-inch-pound torsion machine; and equipment f making tension, compression, hardness, fatigue, shearing, cold ben sonic, and most other accepted and significant tests on metals, concret wood and other structural materials. A system 4000 Data Acquisition an Digital Strain Gage Measurement System has recently been acquired.

Bituminous Materials Testing Laboratory: This laboratory contain equipment for making the significant quality control and identificatio tests on asphalt cements, cutback asphalts, asphalt emulsions, and roa tars. Equipment for the design, mixing, compaction, and testing c asphalt concrete paving mixtures by the Marshall and other methods i included.

Geotechnical Laboratories: The two soils laboratories are equippe with both scale and deadweight consolidometers, triaxial and direct shea machines, unconfined compression machines, permeameters, Atterber it equipment, Proctor and modified AASHTO compaction apparatus, ndard sieves, soil hydrometers, C.B.R. apparatus, and other equipment ded for tests and experiments with soils.

Photoelasticity Laboratory: This laboratory contains the most modern lariscope and related equipment which determines stresses in a wide iety of two dimensional photoelastic models.

Fluid Mechanics Laboratory: Equipment is provided for a wide variety experiments and tests involving the flow of water over weirs or ough pipes, meters, orifices, or a Parshall flume. Other major items of ıipment include a head loss and flow measurement fluid circuit paratus, a Reynolds number device, a hydraulic demonstration unit mitting experiments involving many phenomena of open channel flow, d a centrifugal pump equipped to measure input and output of energy.

Environmental Engineering Laboratory: Equipment is provided for ter analysis determination (primarily according to "Standard thods") of pH, alkalinity, hardness, turbidity, and color. Bacteriological aminations may also be made for waste water analysis, biochemical and emical oxygen demand, nitrogen content, and solids content. The uipment includes incubators, a muffle furnace, pH meters, a deneralizer, electrophotometric devices, an autoclave, a constant temperıre refrigerator, a drying oven, a water still, a fume hood, and essential nor tools and equipment.

Other engineering equipment: Adequate drafting equipment is available the courses in engineering drawing, surveying, photogrammetry, as ll as for the junior and senior courses. This equipment includes drafting achines, planimeters, rectoplanograph, sterocomparagraphs, steroscope dial plotters, mechanical triangular set, pocket steroscopes, height ıders, and adequate steroscopic aerial photographs. Transits, levels, and variety of theodolites, plane tables, compasses, sextants, level and stadia ds, chains, tapes and electronic distance measuring devices are used in e surveying course. A computer aided drafting system with drum plotter ıd associated software is available for student use.

Degree: The degree of Bachelor of Science in Civil Engineering (B.S. in E.) is awarded to those who successfully complete the program of ıdies outlined in the course offerings section of this catalogue.

Three Humanity or Social Science electives, one technical elective, and ıe Civil Engineering elective are required. These are selected from a list approved electives maintained by the Civil Engineering Department. In ompleting the three Humanities or Social electives the student will take a two-course sequence in at least one area of the humanities or soc sciences. The sequence will include one course at an advanced level. T Civil Engineering design elective allows the students to specialize in technical area of Civil Engineering by completing a design course at t senior level that integrates principles and practices of earlier courses in the design of the engineering system.

Cooperative engineering graduate study opportunity: Under cooperati arrangements between The Citadel and Clemson University, qualifi cadets may take a graduate-level course during their last semester. Th course is administered for Clemson University by The Citadel and may l applied toward Clemson's master of science degree in civil engineerin Participating cadets must complete all requirements of The Citadel's ci engineering undergraduate major in addition to this graduate course.

10-101. *Engineering Drawing* Two Credit Hou

Required of all Civil Engineering freshmen.

Use and care of drawing instruments proper weights and types of lin for clear-cut and complete graphical representation; useful geometric constructions; freehand sketching; orthographic projection; auxiliary ar sectional views; pictorial representation with emphasis on isometric dra ing, dimensioning, true lengths, and shapes; problems on points, lines, an planes; development of a reasonable skill in lettering. Supplemented wit seminars by civil engineering faculty members covering work of practici engineers.

Laboratory: four hours.

10-102. *Engineering Design and Analysis* Two Credit Hou

Required of all Civil Engineering freshmen.

The engineering process from problem formulation to the evolutio of creative design, is demonstrated through the practical solution o engineering problems. Emphasis is placed upon analytical and proble solving techniques, such as estimation and approximation; numerical aid to computation; and solutions by digital computer and by graphica methods. Supplemented with seminars by civil engineering faculty members covering work of practicing engineers.

Laboratory: four hours.

10-202. *Statics* Three Credit Hour

Prerequisites: 30-132 (Analytic Geometry and Calculus II), 26-210/26 (Physics for Engineers and Physical Scientists), and 10-102 or concurren with 10-102.

Required of all civil engineering sophomores.

Scalar and vector solutions of problems in statics; principles of statics; sultants, reactions, and equilibrium of forces; analysis of simple trusses, ction; centroids and centers of gravity; and moments of inertia.

Lecture: two hours; laboratory; two hours.

-204. *Photogrammetry* One Credit Hour

Prerequisite: 10-206 or concurrent with 10-206.

Required of all civil engineering sophomores.

An elementary course in aerial photography and topographic mapping; ethods of topographic projections; planning topographic flights; basic oto-interpretation; geometric properties of photgraphs; radial line otting; photographic measurements. An introduction to remote sensing also provided.

Laboratory: two hours.

-205. *Surveying* Three Credit Hours

Prerequisities: 10-101; corequisite: 10-235.

Required of all civil engineering sophomores.

Linear measurements; leveling; compass and transit/theodolite; theory errors; latitudes and departures; areas; stadia; plane table; coordinate ometry; state plane coordinates; standard map projections and introction to the use of electronic distance measuring devices.

Lecture; three hours.

-206. *Surveying* Three Credit Hours

Prerequisites: 10-205 and 10-235; corequisite: 10-236.

Required of all civil engineering sophomores.

Land surveying and boundary laws; public land surveys; areas and olumes; topographic mapping; route surveys; vertical, circular, and ansition curves; lot calculations and construction surveys; and Polaris nd solar observations. A solar or Polaris observation is required during e semester.

Lecture: three hours.

0-209. *Computer Application for Civil Engineering* One Credit Hour

Instruction in digital computer language and systems using problems hosen from civil engineering fields and fields clearly related thereto.

When authorized by the department head, 36-115 may be substituted for is course.

Lecture: one hour; laboratory: one hour.

0-235. *Survey Laboratory I* One Credit Hour

Corequisite: 10-205.

Application of principles obtained in 10-205 through actual field work.

Horizontal control activities include distance measurements by tape a EDM, angular measurements by transit and theodolite; traversi traverse closure computations; balancing computations; and preparati of boundary plat. Computer applications and computer aided drafting available.

Laboratory: two hours.

10-236. *Surveying Laboratory II* One Credit Ho

Co-requisite: 10-206.

Application of principals obtained in 10-206 through actual field wor Preparation of detailed site plan; topographic map preparation; volur calculations; curve layout; and computer applications.

Laboratory: two hours.

10-301. *Dynamics* Three Credit Hou

Prerequisites: 10-202 with a grade of "C" or better and 10-209.

Required of all civil engineering juniors.

Kinematics and Kinetics of particles of rigid bodies in plane motic with emphasis on the special cases of translation and rotation. Tl techniques of vector mathematics are employed.

Lecture: two hours.

10-303. *Mechanics of Materials* Four Credit Hou

Prerequisites: 10-202 with a grade of "C" or better and 10-20 corequisite: 10-307.

Required of all civil engineering juniors.

Elastic properties of structural materials; internal stresses and strain principal stresses and stains including Mohr's Circle; axial; torsio flexure; shear; riveted and bolted joints; combined stresses; shear an moment diagrams; beam deflections; computer applications; supplemente by 10-307, taken concurrently or subsequently to 10-303.

Lecture: three hours; laboratory: two hours.

10-305. *Transportation Engineering* Three Credit Hour

Prerequisite: 10-206.

Required of all civil engineering juniors.

Development and interrelationships of United States transportatio systems; current problems and tranportation projects; planning, financing and design of land transportation, airport, and seaport facilities. Includes road and railroad geometric and drainage design; erosion controls; airpo layout and design; and design of harbors and port facilities. Problems ar solved by both manual and computer methods.

Lecture: three hours.

-306. *Highway Engineering* Two Credit Hours

Prerequisite: 10-305; correquisite; 10-326..

Required of all civil engineering juniors.

Alignment and earthwork drawings and computations; earthwork perations; routine tests of highway materials, bituminous and non-tuminous; pavement and basic thickness design; design and testing of sphalt paving mixtures; construction of roadway elements; construction urveys; and an introduction into construction specifications.

Lecture: two hours.

-307. *Materials Laboratory* One Credit Hour

Prerequisite or corequisite: 10-303.

Required of all civil engineering juniors.

Laboratory supplement to 10-303. Introduction to the use of testing achines and equipment; strength and deformation measurements of rrous and non-ferrous metals, concrete, and wood; properties of aterials as determined by results of tests in compression, tension, ending, torsion; behavior of columns; use of electric resistance strain uges; Rockwell and Brinell hardness tests; use of ASTM specifications nd test procedures.

Laboratory: three hours.

0-308. *Structural Analysis I* Three Credit Hours

Prerequisites: 10-303 with a grade of "C" or better, 30-231 (Analytic Geometry and Calculus III), and 30-234 (Applied Mathematics I).

Required of all civil engineering juniors.

Analysis of simple structures; reactions; shear and moment for static nd moving loads on beams; stresses in members of truss structures; force ystems in space frames; influence line diagrams; plastic theory; and deflections of beams, frames, and trusses.

Lecture: three hours.

0-314. *Engineering Administration* Two Credit Hours

Required of all civil engineering juniors.

An elementary course in engineering administration with primary attention given to the basic principles of engineering economy as applied o the economic analysis of the costs of construction and operation of various engineering works. Computer applications in cost analysis. In addition, the course covers engineering ethics as applied by practicing engineers.

Lecture: two hours.

10-315. *Fluid Mechanics* Three Credit Ho

Prerequisite: 10-301.

Required of all civil engineering juniors.

An introduction to fluid characteristics, properties, and the fun mentals of fluid statics, fluid dynamics, fluid flow, and fluid measu ments. Hydraulics, a practical application of fluid mechanics involving flow of water, investigates the properties of orifices, weirs, flumes, pip and open channels, including their engineering applications. Classroo assignments will include design problems and problem solving usi computers.

Lecture: three hours.

10-326. *Highway Engineering Laboratory* One Credit Ho

Co-requisite: 10-306

Preparation of construction plans for a short highway, includi reducing field notes; plotting; design of horizontal and vertical contr earthwork; determination and mass diagram calculations; asphalt testi including penetration, specific gravity, particle charge, viscosity, fla point, aggregate coating, and pavement mix design by Marshall method.

Laboratory: two hours.

10-401. *Concrete Laboratory* One Credit Ho

Prerequisites: 10-307 and 30-234 (Applied Mathematics I).

Required of all civil engineering seniors.

Design, preparation, and testing of portland cement concrete mixes f a desired quality of concrete using both plain portland cement concret and concretes containing the various commonly used mixtures; te specimens cured under controlled temperatures and moisture condition close attention given to the influence of the quality and grading of th aggregates and to other features affecting the properties of the concret ultimately forming a structure; study and discussion of specification governing good construction practice in handling and placing aggregate and concrete; and the control inspection of same. Specific emphasis i placed on professional laboratory report format and presentation.

Laboratory: two hours.

10-402. *Geotechnical Engineering Laboratory* One Credit Hou

Prerequisites: 10-409; 10-410 to be taken concurrently.

Required of all civil engineering seniors.

Classification and soil strength tests to predict stability of soil for use i earth dams, roads, and foundations. Specific gravity, combined mechanical analysis, Atterberg limits, permeability, compaction, unconfined compresion, consolidation, triaxial, direct shear, relative density, and C.B.R. ests; C.B.R. tests; field tests to consist of field density tests, soil borings, nd load tests.

Laboratory: two hours.

0-403. *Reinforced Concrete Design* Four Credit Hours

Prerequisite: 10-308.

Required of all civil engineering seniors.

Design of reinforced concrete structures using strength design theory. Design of beams, columns, combined stress members, footings, and etaining walls. Introduction to prestressed concrete. Comprehensive nalysis and design of a building frame and foundation system. Special ttention is given to the use of current specifications for design and onstruction. The use of computer programs to facilitate analysis and design during the comprehensive problem is encouraged.

Lecture: four hours.

10-405. *Structural Analysis II* Three Credit Hours

Prerequisite: 10-308.

Required of all civil engineering seniors.

Theory of statically indeterminate structures, using methods of work, slope deflection, and moment distribution; an introduction to Matrix Methods; and multi-story building frame analysis using computer software.

Lecture: two hours; laboratory: two hours.

10-406. *Steel Design* Three Credit Hours

Prerequisite: 10-405.

Required of all civil engineering seniors.

Theory and design of steel structures, including elastic and plastic design concepts. Design of tension and compression members; beams; beam columns; welded plate girders; trusses; mill buildings-composite design. Computer solutions are utilized for design shears, moments, and axial loads.

Lecture: two hours; laboratory: two hours.

10-408. *Environmental Engineering* Three Credit Hours

Prerequisite: 10-315.

Required of all civil engineering seniors.

Introduction to concepts involving hydrology, groundwater, and stream flow with respect to controlled drainage and water supply. Methods of water treatment, wastewater treatment, and sludge handling, treatment and disposal will be introduced with emphasis on design concepts. Classroom assignments will include design and problem solution usin computers.

Lecture: three hours.

10-409. *Introduction to Geotechnical Engineering* Three Credit Hour

Prerequisites: 10-303, 10-306, 10-315, 30-234, and 45-303.

This course introduces the student to the rudiments of theoretical soi mechanics, groundwater flow, stress in soils. Topics covered include formation of soils, phase relationships, classification, consolidation, and stress at depth. The shear strength of soils is considered last. Outside reading is encouraged to acquaint the student with geotechnical terminology and research.

Lecture: three hours.

10-410. *Geotechnical Engineering II* Three Credit Hours

A first course in geotechnical design. Topics include compaction theory and practice, lateral earth pressure for cohesive and cohesionless soils braced excavation, heave in cuts, and liquefaction. Shallow and deep foundation design theory and application. Bearing capacity factors. Slope stability analyses. Subsurface investigation philosophy and techniques. The last lectures are devoted to special topics.

Lecture: three hours.

10-418. *Fluid Mechanics Laboratory* One Credit Hour

Prerequisite: 10-315.

Accomplishment of laboratory exercises and experiments to illustrate basic concepts of fluid mechanics and to validate empirical formulas used in hydraulic computations. Principal emphasis is on the phenomena associated with closed conduit and open channel flow of water, measurement of velocities, and flow rates and operational characteristics of pumps.

A minimum of one experiment will involve the use of the computers to evaluate laboratory data.

Laboratory: two hours.

10-419. *Environmental Engineering Laboratory* One Credit Hour

Accomplishment of chemical, physical, and microbiological determinations used in the examination of water and wastewater. Laboratory analysis to evaluate water quality will be performed, such as biochemical oxygen demand, suspended solids, ph, alkalinity, and others.

A minimum of one laboratory experiment will involve the use of the computer to evaluate laboratory data.

Laboratory: two hours.

0-420. *Senior Research Project* Two Credit Hours

Required of all civil engineering seniors.

Technical (Civil Engineering)

The following courses are offered on demand. They constitute part of a ist of courses (including courses offered by other departments) which are approved by the head of the Department of Civil Engineering as satisfying the requirement that each civil engineering major complete a three-credit-hour technical elective.

10-316. *Modeling of Civil Engineering Systems* Three Semester Hours

Prerequisite: 30-234.

Modeling of the behavior of a broad range of civil engineering systems using various computer-aided numerical, approximate, and analytical solution techniques.

Lecture: three hours.

10-411. *Engineering Management* Three Credit Hours

Prerequisite: completion of all freshman, sophomore, and junior courses required for civil engineering majors, or approval of department head.

Technique of engineering planning and management using the critical path method. Both computer and noncomputer approaches are used. Relationships between owners, A-E's and contractors are covered with emphasis on proper ethics and professional conduct by the engineer.

Lecture: three hours.

10-421. *Subdivision Planning and Design* Three Credit Hours

Prerequisites: 10-102, 10-306, and 10-408. 10-408 may be taken concurrently.

The elements of planning a subdivision including an introduction to land planning, zoning, and subdivision requirements and review procedures; site development including the integrated design of roadways, storm drainage collection/retention/detention systems, sanitary sewer collection and transportation systems (pumping stations and force mains), portable water systems, and construction cost estimates and specification; and economic analysis with individual student participation in preliminary development of single family, multi-family, and mobile home projects on 20- to 25-acre tracts of land. Computer applications include use to spreadsheets.

Lecture: two hours; laboratory: two hours.

Civil Engineering Electives

Each Civil Engineering major must complete one of the following design courses in the spring of the senior year.

10-422. *Comprehensive Project Design in Environmental Engineering* Three Credit Hours

Prerequisite: Senior standing in civil engineering.

Application of civil engineering principles, through group studies and lecture, to develop a solution for a comprehensive engineering problem devoted to water resources/environmental engineering.

Lecture: two hours: laboratory: two hours.

10-423. *Comprehensive Project Design in Structural Engineering* Three Credit Hours

Prerequisite: Senior standing in civil engineering.

Application of civil engineering principles, through group studies and lecture, to develop a solution for a comprehensive Structural Engineering problem involving other aspects of civil engineering as well.

Lecture: two hours; laboratory; two hours.

10-424. *Comprehensive Project Design in Geotechnical Engineering* Three Credit Hours

Prerequisite: Senior standing in civil engieering.

Application of civil engineering principles, through group studies and lecture, to develop a solution for a comprehensive Geotechnical engineering problem involving other aspects of civil engineering as well.

Lecture: two hours; laboratory: two hours.

10-425. *Comprehensive Design Project in Engineering Practice* Three Credit Hours

Prerequisite: Senior standing in civil engineering.

Application of civil engineering principles, through group studies and lecture, to develop a solution for a comprehensive problem of general engineering practice involving many aspects of civil engineering. 10-421 Subdivision Planning and Design satisfies this course requirement.

Lecture: two hours; laboratory: two hours.

Department of Education

PROGRAMS LEADING TO TEACHER CERTIFICATION

Department Head & Director of Teacher Education: Templeton
Professors: Magoulas, Mahan, McWhirt, Rhett, Templeton, Clees, Shelton
Associate Professors: Williams, Wallace, Ouzts, Beers
Assistant Professors: Elksnin,

The Director of Teacher Education is the college official charged with the responsibility for the development, implementation, administration, and monitoring of all teacher education activities at The Citadel. His office assures that all Citadel programs meet the standards and criteria set forth by:

1. The South Carolina General Assembly
2. The South Carolina Department of Education
3. NASDTEC Accreditation Standards
4. NCATE Accreditation Standards

Teacher education at The Citadel is dedicated to the development of teachers for the public schools of the state and nation. Teacher education programs at The Citadel are in the area of secondary education with teaching fields of Social Studies, History, Science, Biology, General Science, and English. In addition, a program for K-12 certification in the field of Physical Education is available.

Students are admitted to teacher education after showing that they possess the potential for personal and academic success. Criteria utilized in the process of admitting students to major in teacher education include past academic achievement, results of national tests, interviews, and successful completion of a basic skills test administered by the State of South Carolina. No student can obtain full admission to the teacher education program until a passing score on the Education Entrance

Examination (EEE) has been earned. The Education Entrance Examination is a test of basic skills in writing, reading, and mathematics. A student may be admitted for one year pending completion of the EEE. If a student fails the test, he is afforded a maximum of two additional times to pass the EEE. No student may continue longer than one year in a teacher education program without successful completion of this test.

As an entering freshman, a student may declare a major in Education or Physical Education (Teaching Track). At this level of admission to teacher education, the responsibility of the student is to complete the Education Entrance Examination and follow the appropriate curriculum. The student must be aware of the importance of maintaining a grade point ratio that will allow full admission to Teacher Education and the Internship in Teaching and ultimate graduation. Admission to Teacher Education is accomplished at the conclusion of 60-90 semester hours of work. At that time the student must present a grade point ratio of 2.5 or a 2.0 and SAT scores which place the student at or above the 50th percentile of all entering college students in South Carolina in the year of the student's matriculation.

Students who are already enrolled at The Citadel and are contemplating a change of major into Teacher Education should consider carefully the grade point ratio requirements in Teacher Education. The requirements for transfer are as follows:

a. Obtain from the Registrar's Office a Change of Major Card. Complete this and bring it to the office of the Director of Teacher Education.
b. Request the Record's Office to send a current transcript of your record to the Director of Teacher Education.
c. Obtain from the Secretary, Director of Teacher Education, an application for admission to the teacher education program.
d. Arrange an interview with the Director of Teacher Education.

When these steps have been completed, the materials will be reviewed by the Committee on Admissions and Retention in Teacher Education. This Committee will schedule an interview with the candidate. The criteria for admission to teacher education are:

a. Evidence of academic proficiency.
b. Evidence of interest in education and working with youth.

c. Evidence of an ability to communicate effectively in written and spoken forms.

Admission to Senior Level Study

When the student has completed 60-90 hours of course work at The Citadel, he must apply for Admission to Senior Level Study. The tudent's application will be reviewed by the Committee on Admission and Retention. This review will include the following:

a. An examination of Grade Point Ratio to determine if it is at least 2.5 or 2.0 and SAT scores at or above the 50th percentile of all entering freshmen in South Carolina at the time of the student's matriculation.

b. A review of success in field experiences completed.

c. A review of evaluations completed by instructors in completed courses in professional education.

d. A review of evaluations completed by general education faculty.

e. Advisor evaluations about suitability and interest in teacher education.

f. A passing score on the EEE.

The Director of Teacher Education will be informed of the results of this review, and an official notice of admission or rejection will be sent the student.

Admission to the Internship in Teaching (50-400, 59-400)

Students will be required to make a formal application for admission to the Internship in Teaching at least six weeks prior to the beginning of the term in which it will be done. This application will be reviewed by the Committee on Admission and Retention.

Admission to the Internship in Teaching will be contingent on the following criteria:

1. Admission to Senior Level Study.
2. All professional education courses must be completed prior to the Internship in Teaching. A G.P.R. of 2.5 must have been maintained in these courses.
3. A G.P.R. of 2.0 must have been earned in the student's teaching field and a minimum of 20 hours in the field completed prior to taking the Internship in Teaching.

4. All freshman and sophomore required courses must be completed prior to the Internship in Teaching.
5. Demonstrated success in previous field experiences.
6. Students must have an overall 2.5 G.P.R. for admission to the Internship in Teaching and for graduation.
7. A National Teachers Examination Specialty Area test score must be on file at The Citadel.

Teacher Preparation Programs Are Subject To Legislative Changes.

The following are objectives that guide the planning and practices of the teacher education faculty:

1. to enable the student to develop scholarship and mastery of a body of knowledge in the selected teaching specialty;
2. to enable the student to become aware of the emotional and psychological needs which he brings to the classroom, his feelings about being in the role of teacher, and the value orientation which he expresses in his behavior as a teacher;
3. to enable the student to develop skills in critical thinking, to make reasoned judgments about controversial issues, and to pursue a disciplined method of inquiry;
4. to enable the student to develop an awareness of the emotional and psychological needs of students, the differing reactions of pupils to their teachers, and the needs for differential responses to each student;
5. to enable the student to evaluate a variety of strategies for teaching and learning, to experience these strategies, and to develop from among them a personal style which fits his own objectives;
6. to enable the student to develop an awareness and understanding of the school in relation to the political and social system and to evaluate his objectives in the light of his relationship;
7. to create in the student an awareness of the school as the transmitter of the dominant values of the society and the implication of this in regard to community expectations about the role of the teacher.

Following is a summary of the three areas in which courses will be studied as prescribed and which serve as a framework within which each student will develop a program of study consistent with his individual needs as a future teacher.

Education Curriculum

econdary Certification Areas

rea A: Common Learnings

nglish: 80-101, 80-102, 80-201, and 80-202	12 semester hours
Mathematics: 30-105 and 30-106	6 semester hours
ciences: 47-101 and 47-102 plus 8 hours in the physical sciences (chemistry or physics)	16 semester hours
istory: 70-101, 70-102, and 70-417 plus 6 hours in social studies other than history	13 semester hours
ne Arts: 54-205 and 54-206	6 semester hours
sychology: 51-201	3 semester hours
ealth: 58-101	3 semester hours
hysical Education: RPE four semesters	0 semester hours
Total:	59 semester hours
OTC	16 semester hours

For teaching fields of Science and Mathematics, requirements are 8 semester hours as follows: 30-119 and 30-131.

rea B: Professional Education

ducation: 50-201, 50-301, 50-302, 50-308, 50-400, 50-401, 50-402, and 50-408	33 semester hours

rea C: Major Teaching Field—Last Five Semesters

The requirements in each of the secondary certification areas offered at he Citadel are as follows:

. English

Composition and Literature (80-101)	3 semester hours
Composition and Literature (80-102)	3 semester hours
Major British Writers (80-201)	3 semester hours
Major British Writers (80-202)	3 semester hours
Introduction to Public Speaking (80-205)	3 semester hours
American Literature (Select from following courses: 80-341, 80-342, 80-343, 80-344)	6 semester hours
A Survey of World Literature (80-405)	3 semester hours
Principles of Literary Criticism (80-407)	3 semester hours
Effective Writing (80-413)	3 semester hours
Modern English Grammar (80-414)	3 semester hours
The English Language (80-415)	3 semester hours
Adolescent Literature (80-425)	3 semester hours
Total:	39 semester hours

2. History

A Survey of American History (70-101 and 70-102)	6 semester hour
History of Western Civilization (70-221 and 70-222)	6 semester hour
The American South (70-401)	3 semester hours
Afro-American History, 1619 to Present (70-416)	3 semester hours
History of Modern Russia (70-424)	3 semester hours
Latin American History (70-451)	3 semester hours
Two approved history electives	6 semester hours
Total:	30 semester hours

3. Mathematics

College Algebra and Trigonometry (30-119)	4 semester hours
Analytic Geometry and Calculus (30-131 and 30-132)	8 semester hours
Linear Algebra (30-240)	3 semester hours
Introductory Statistics (30-211)	3 semester hours
Modern Algebra (30-303)	3 semester hours
Modern Geometry (30-305)	3 semester hours
Introduction to Computer Science I (36-201)	3 semester hours
History of Mathematics (30-412)	3 semester hours
Mathematical Models and App.(30-301)	3 semester hours
Approved mathematics elective	3 semester hours
Total:	36 semester hours

4. Science

a. The approved program in science requires the following:

General Biology I (47-101)	4 semester hours
General Biology II (47-102)	4 semester hours
Genetics (47-308)	4 semester hours
General Chemistry (40-101 & 40-102)	6 semester hours
General Chemistry Lab (40-111 & 40-112)	2 semester hours
Organic Chemistry (40-207)	3 semester hours
Organic Chemistry Laboratory (40-217)	1 semester hour
Introduction to Earth Science I (45-201)	4 semester hours
Introduction to Earth Science II (45-202)	4 semester hours

Astronomy (26-201)	3 semester hours
Physics for Engineers & Physical Scientists (26-210 & 26-260)	4 semester hours
Physics for Engineers & Physical Scientists (26-211 & 26-261)	4 semester hours
Physics for Engineers & Physical Scientists (26-212 & 26-262)	4 semester hours
Total:	47 semester hours

b. The approved program in biology requires the following:

General Biology I (47-101)	4 semester hours
General Biology II (47-102)	4 semester hours
Ecology (47-406)	4 semester hours
General Anthropology (62-201)	3 semester hours
Chemistry (40-103 & (40-113)	4 semester hour
Chemistry (40-104 & 40-114)	4 semester hour
Physics (26-203 & 26-253)	4 semester hours
Physics (26-204 & 26-254)	4 semester hours
Five approved electives selected from any of the following areas:	15-20 semester hours
Physiology:	
Cell Biology (47-205)	3 semester hours
Human Physiology and Human Psychology Laboratory (47-304 & 47-306)	4 semester hours
Field Biology:	
The Vascular Flora of South Carolina (47-314)	4 semester hours
General Entomology (47-321)	3 semester hours
Ornithology (47-408)	4 semester hours
Marine Biology (47-409)	4 semester hours
Vertebrate Natural History (47-410)	4 semester hours
Developmental Biology:	
Evolution (47-208)	3 semester hours
Genetics (47-308)	3 semester hours
Descriptive Biology:	
Survey of the Plant Kingdom (47-203)	4 semester hours
Basic Plant Structure (47-204)	4 semester hours
Invertebrate Zoology (47-301)	4 semester hours

Human Anatomy and Human Anatomy Laboratory (47-303 and 47-305)	4 semester ho
Microbiology (47-310)	4 semester ho
General Parasitology (47-405)	3 semester ho
Total:	46-51 semester ho

c. The approved program in General Science requires the followin

Introduction to Chemistry and Introduction to Chemistry Laboratory (40-103, 40-113, and 40-104, 40-114)	8 semester ho
General Biology I and II (47-101 and 47-102)	8 semester ho
Physics (26-203, 26-253, 26-204, and 26-254)	8 semester hou
Introduction to Earth Science I and II (45-201 and 45-202)	8 semester hou
Total:	32 semester hou

5. Social Studies

A Survey of American History (70-101 and 70-102)	6 semester hou
History of Western Civilization (70-221 and 70-222)	6 semester hou
Economic Origins and Principles (5-201)	3 semester hou
American National Government (60-102)	3 semester hou
State and Local Government (60-303)	3 semester hou
Introduction to Sociology (61-201)	3 semester hou
Cultural Anthropology (62-202)	3 semester hou
Elementary Geography (71-109)	3 semester hou
One elective course to be selected from anthropology, geology, government, economics, psychology and history	3 semester hour
Total:	33 semester hour

Physical Education Curriculum

Area A: Common Learnings

English: 80-101, 80-102, 80-201, 80-202	12 semester hour
Mathematics: 30-105, 30-106	6 semester hour
Sciences: 47-101, 47-303, 47-304, 47-305, 47-306 plus 8 hours of a physical science (chemistry	

or physics)	20 semester hours
istory: 70-101, 70-102, 70-417	7 semester hours
ine Arts: 54-205, 54-206	6 semester hours
ealth: 58-101	3 semester hours
hysical Education: RPE four semesters	0 semester hours
Total:	54 semester hours
OTC	16 semester hours
rea B: Professional Education	
ducation: 50-301, 50-302, 50-307, 50-308, 50-408, 59-433, 59-404, 59-400, plus 4 Applied Methods Courses	41 semester hours
rea C: Major Teaching Fields	
ntroduction to Physical Education (59-101)	3 semester hours
earning Theory & Methodology in Physical Education (59-102)	3 semester hours
easurement & Evaluation in Physical Education (59-205)	3 semester hours
pecial Physical Education (59-403)	3 semester hours
hysiology of Exercise (59-419)	3 semester hours
inesiology (59-314)	3 semester hours
are & Prevention of Athletic Injuries (59-402)	3 semester hours
enior Seminar (59-421)	1 semester hour
Total:	22 semester hours

Course Descriptions

0-201. *Introduction to Education* Three Credit Hours

Open to any interested student.

An orientation to teaching as a profession and to the teacher-training rogram. Study and discussion on school organization and teachers' roles nd responsibilities; personal and professional guidance. Students will ork weekly in a public school.

0-301. *Philosophy of Education* Three Credit Hours

A survey of the history, philosophies, and theories underlying organized education and the significance of the dissemination of knowledge in a democracy.

50-302. *Educational Psychology* Three Credit Hours

This course focuses on the application of psychological principles of teaching, psychological adjustment, and evaluation and management.

Each student will work weekly in a public school to gain experiences in clinical setting.

50-303. *Guidance* Three Credit Hou

An experimental study of the scope of contemporary guidan programs and concepts of career development. Special emphasis will placed on having students choose and carry out a personal behavi change project and a vocational self-assessment.

50-307. *Child Development* Three Credit Hou

Acquisition of understanding and appreciation of the mental, physica social, and emotional aspects of development in childhood. Emphasis o techniques of motivation, principles of learning, learning styles, individu differencese, and developmental problems.

50-308. *Adolescent Development* Three Credit Hou

Acquisition of understanding and appreciation of mental, physica social, and emotional aspects of development from puberty to earl adulthood. Emphasis on the impact of environmental and biologic factors on the physical, cognitive, and personality development of the adolescent and the implications resulting from this for education procedures.

50-309. *The Contemporary American Family* Three Credit Hour

A frank and comprehensive analysis of the problems confronting th modern American family, with case studies treating the various phases o conflict with the family.

50-315. *Introduction to Exceptional Children* Three Credit Hours

Designed to introduce students to children, adolescents, and young adults who have special educational needs which must be met in order for their school experiences to be successful. This course will take a non-categorical approach to special education. It will discuss these specia students from the view of learning, physical, emotional, and behavioral problems. Primary teaching strategies will include practice activities and applications as well as class discussions.

50-400. *Internship in Teaching* Twelve Credit Hours

Prerequisites: 50-301, 50-302, 50-308, 50-401, and 50-402.

NTE Specialty Area Test Score.

A requirement for certification; observation and teaching in approved schools under approved supervising teachers; supervision by college instructor. Assignment only in major teaching field. This internship covers twelve weeks, from 8:00 to 3:30 daily. Each student provides his own transportation. Formal application for Internship in Teaching must be nade not later than six weeks prior to the beginning of the semester of egistration.

0-401. *Methods and Materials of Secondary-School Teaching* Three Credit Hours

Study of the aims, methods, and materials employed in secondary-chool teaching; organization of subject matter; motivation and direction f learning; development of attitudes, appreciations, and ideals; classroom resentation of formal materials. The utilization of audio-visual hardware nd software and the development and use of evaluative instruments in he total teaching-learning process will be emphasized.

0-402. *Special Methods in Teaching* Three Credit Hours

Special techniques, theories, and materials in teaching in the area of pecialization in secondary education, grades 6-12. A. English; B. Science; . Social Studies; D. Mathematics.

0-408. *Teaching Reading in the Secondary School* Three Credit Hours

Designed to acquaint middle-school and high-school teachers with eading practices geared to their students. The course will include a broad urvey of the field of reading with attention given to some diagnostic rocedures as well as the development of general reading programs for he middle school and senior high school levels. Different subject areas vill be considered.

0-409. *Special Topics in Education* Three Credit Hours

Prerequisite: permission of the instructor and/or department head.

A course designed for the intensive study of a current problem in the ield of education at the undergraduate level.

0-420. *Independent Study/Research* Three Credit Hours

Prerequisite: permission of the instructor and/or department head.

This course will offer students an opportunity to acquire a deeper nowledge in an area of specialized interest related to the field of ducation. Prior to enrollment, each student must submit a plan of study o the department. A formal research paper will be required. Credit in ndependent Study/Research is limited to 3 semester hours on a degree rogram.

Fine Arts

4-205. *Music Appreciation* Three Credit Hours

A non-technical course to enhance the student's understanding and njoyment of music by a twofold approach: first, to gain fundamental knowledge of style, content, and form of the more outstanding works the great composers; and second, to study the evolution of musical art u to the present time; particular emphasis placed upon the latter.

50-206. *Art Appreciation* Three Credit Hou

The theory of abstract principles and material techniques as applied i the evaluation of works of art. The employment of such theory in a introductory study of famous art works.

54-207. *Survey of Art History* Three Credit Hou

An introduction to the art of China, Egypt, the Mediterranean unde Rome, Byzantium, and Gothic Europe. Art works from Africa, Indi and Japan will also be considered. Major works will be discussed i relation to their cultural and philosophic context and content.

54-209. *Music Theory I* Three Credit Hour

Prerequisite: consent of instructor on music literacy.

Study of basic musical materials; the structure and use of all diatoni chords, sight-singing and ear training.

54-210. *Music Theory II* Three Credit Hour

Prerequisite: 54-209.

Continuation of Music Theory I. Inversions of diatonic chords; th dominant seventh chord and its inversions; nonharmonic tones; introduction to modulation; sight-singing and ear training.

Library Science

55-305. *Children's Literature* Three Credit Hours

History of children's books; their selection and evaluation, including modern books emphasizing winners of the Coldecott and Newbury Awards. Includes wide reading of all classes of children's literature and details which make children's books worthwhile. The course will be supplemented by discussions, reports, and special projects.

55-425. *Adolescent Literature* Three Credit Hours

Open to juniors and seniors and designed for the secondary-school teacher.

A study of literature for the adolescent, including materials of introducing the major literary genres to the secondary-school student.

Department of Electrical Engineering

Department Head: Herring
Professors: Herring, Askins, Dornetto
Associate Professors: Schaefer
Assistant Professor: Stinson, Epple

In 1941 the Board of Visitors authorized the establishment of a Department of Electrical Engineering at The Citadel. The department was founded to meet the needs of many students who are attracted to the type of education which The Citadel offers, but who were formerly compelled to go elsewhere to obtain training in the field of their special interest.

It is the purpose of the department to prepare men for professional work or for graduate study in the field of electrical engineering and to give training in as many of the elements of a broad education as can be included in a program of professional study leading to the degree of Bachelor of Science in Electrical Engineering.

The electrical engineering program is accredited by the Accreditation Board for Engineering and Technology.

The first graduating class of eight men received degrees in September 1948. Since then, more than 750 degrees in electrical engineering have been earned at The Citadel, and facilities and curriculum have been steadily improved.

A student branch of the Institute of Electrical and Electronics Engineers was established in 1962 and is active at The Citadel; students of the junior and senior classes who meet the academic requirements may be elected to Tau Beta Pi, the national engineering honor society.

Convinced of the great value of practical experience, the department encourages and assists its majors to obtain gainful employment for at least one summer in electrical engineering or a related field.

Early in the junior year, the electrical engineering major will normally select an area of professional emphasis—such as electronics, power systems, communications, etc., and will choose his electives, in consultation with his faculty advisor, to achieve his objectives.

Probationary Admission. Students admitted to The Citadel must have a minimum score of 550 on the mathematical portion of the Scholastic Aptitude Test (SAT) in order to be admitted as an electrical engineering major. Students not meeting this requirement are admitted as probationary electrical engineering majors. Probationary students enroll in the courses prescribed for the major in the freshman year and their academic progress is closely monitored by an electrical engineering faculty advisor. After each grading period the Electrical Engineering Standing Committee on Admission and Retention (EESCAR) reviews the academic record for each probationary student to evaluate the probability of his successful completion of degree requirements. Committee action may lead to admission in full standing, continuation of probationary status, or a recommendation for a change in career goals. Probationary students are required to achieve a minimum cumulative grade-point ratio of 2.0 to be admitted in full standing. Only those students admitted to full standing will be allowed to enroll in 20-201 (Introduction to Electrical Engineering).

For a tabulation of the course requirements for electrical engineering majors, see Courses of Study section of this catalogue. With the approval of the department head, up to 6 credit hours of professional electives may be elected from courses numbered above 300 in the Department of Chemistry, Civil Engineering, Mathematics and Computer Science, or Physics.

Electrical Engineering Curriculum

20-102. *Graphic Communication* One Credit Hour

Required of electrical engineering freshmen.

Orthographic and pictorial representation, without drawing instruments, of three dimensional objects. Lettering, dimensioning, sectional and auxiliary views, and oblique and isometric sketches.

Laboratory: two hours.

20-103. *Introduction to Engineering* Three Credit Hours

Required of electrical engineering freshmen.

Branches and functions of engineering; technical decision and human welfare; professional ethics and registration; the role of the engineer in society. Formulation of problems, engineering analysis and design techniques, use of computational aids, and engineering problem solving.

Lecture: three hours.

20-201 and 20-202. *Electric Circuit Analysis I and II* Three Credit Hours

Prerequisite for 20-201: 20-103 and 30-131; prerequisite or corequisite: 26-210/260.

Prerequisite for 20-202: 30-132 and a grade of C or better in 20-201; prerequisite or corequisite: 26-211/261 and 20-204.

Required of electrical engineering sophomores.

Basic electrical elements and sources; Ohm's and Kirchhoff's Laws; techniques of DC circuit analysis; sinusoidal analysis and phasors; power and three-phase circuits; and transient response of simple circuits.

Lecture: three hours, two semesters.

20-204. *Electrical Laboratory* One Credit Hour

Prerequisite or corequisite: 20-202.

Required of electrical engineering sophomores.

An introduction to the experimental method. Laboratory exercises designed to supplement the material presented in 20-201 and 20-202.

Laboratory: two hours.

20-206. *Computer Applications for Electrical Engineers* Two Credit Hours

Prerequisite or corequisite: 20-202.

Required of electrical engineering sophomores.

The computer is presented as a tool for the solution of electrical engineering problems. Elementary programming for micro and mainframe computers; the use of application programs such as SPICE and PCAP for the study of electrical circuits in the time and frequency domain; simulation of physical systems using CSMP.

Lecture: two hours.

20-301. *Linear Circuits Laboratory* One Credit Hour

Prerequisite or corequisite: 20-204; prerequisite or corequisite; 20-309.

Required of electrical engineering juniors.

A laboratory course to accompany 20-309, Linear Circuit Analysis. Formerly titled Electrical Laboratory.

Laboratory: two hours.

20-302. *Electrical Machinery Laboratory* One Credit Hour

Prerequisite or corequisite: 20-316.

Required of electrical engineering juniors.

A laboratory course to accompany 20-316, Electromechanical Energy Conversion. Formerly titled Electrical Laboratory.

Laboratory: two hours.

20-305. *Digital Systems Fundamentals* Three Credit Hours

Required of computer science majors.

Boolean algebra; digital coding; basic logic circuits; design of combinational and sequential circuits; and memory devices.

Lecture: three hours.

20-306. *Electronics I* Three Credit Hours

Prerequisite: 20-206 and a grade of C or better in 20-202; prerequisite or corequisite: 20-313.

Required of electrical engineering juniors.

Characteristics of solid-state devices; theory and design of low-frequency amplifiers; transistor biasing and stabilization; design of multistage and feedback amplifiers; and digital circuits.

Lecture: three hours.

20-307. *Nuclear Engineering* Three Credit Hours

Prerequisite: 26-212/262.

An introduction to the theory and application of nuclear energy. Topics include fission and the chain reaction; nuclear fuels; nuclear reactor principles, concepts, examples, construction, operation, and ecological impact; heat transfer and fluid flow; radiation hazards and shielding; nuclear propulsion; and controlled fusion.

Lecture: three hours.

20-308. *Elements of Electrical Engineering* Three Credit Hours

Prerequisite: 30-132; prerequisite or corequisite: 26-211/261

Required of civil engineering juniors.

Fundamental electrical concepts and units. Basic laws of electrical circuits. Equivalent circuits. DC and steady-state AC circuits analysis. Effective current, average power, and three-phase power.

Lecture: three hours.

20-309. *Linear Circuit Analysis* Three Credit Hours

Prerequisites: 20-206, 30-234 and a grade of C or better in 20-202; prerequisite or corequisite: 20-301, 30-335.

Required of electrical engineering juniors.

The study of continuous and discrete systems utilizing Laplace and z-transform theory.

Lecture: three hours.

20-311. *Digital Logic and Circuits* Three Credit Hours

Prerequisite: 20-202.

Required of electrical engineering juniors.

Introduction to Boolean algebra; digital data coding; digital arithmetic;

design of combinational and sequential circuits; design, construction and evaluation of digital circuits using industry standard digital integrated circuits.

Lecture: three hours.

20-312. *Systems I* Three Credit Hours

Prerequisite: 20-309.

Required of electrical engineering juniors.

An introduction to feedback control systems; system representation; stability; root-locus and frequency response; compensation.

Lecture: three hours.

20-313. *Electronics Laboratory* One Credit Hour

Prerequisite or corequisite: 20-204; prerequisite or corequisite: 20-306.

Required of electrical engineering juniors.

Experimental studies coordinated with the subjects studied in 20-306.

Laboratory: two hours.

20-316. *Electromechanical Energy Conversion* Three Credit Hours

Prerequisite: 20-309; prerequisite or corequisite: 20-302

Required of electrical engineering juniors.

Analysis of transformers. Fundamentals of electromechanical energy conversion. Study of DC, induction, and synchronous machines.

Lecture: three hours.

20-318. *Electromagnetic Fields* Three Credit Hours

Formerly 20-417.

Prerequisite: 20-204, 20-206, 26-212/262, 30-234, and a grade of C or better in 20-202.

Prerequsite or corequisite: 30-335.

Required of electrical engineering juniors.

Static and magnetic fields. Experimental laws and their relation to Maxwell's equations. Laplace and Poisson's equations, boundary value problems. Time varying fields, plane waves, and transmission line phenomena.

Lecture: three hours.

20-324. *Technology and Society* Three Credit Hours

Open to juniors and seniors in all majors.

An exploration of the impact of twentieth century technology on society, of the nature of the technology/society interfaces, and the problems encountered in predicting societal response to technological developments. Also included is an examination of the influence of private and public policies in shaping technology and, through it, society; and demonstration of the need for joint action by technologists and humanists.

Lecture: three hours.

20-330. *Digital Systems Engineering* Three Credit Hours

Prerequisites: 20-311, 20-313, and 20-306.

Required of electrical engineering juniors.

Characteristics, specifications, and design of digital systems. Analysis and synthesis of sequential circuits. Microprocessor interfacing. Design project required.

Lecture: three hours.

20-401. *Electronics II* Three Credit Hours

Prerequisite: 20-306 and 20-313.

Ideal and non-ideal operational amplifiers; active filters; comparators; and characteristics and applications of modern linear and digital integated circuits.

Lecture: three hours.

20-403. *Electric Power Systems* Three Credit Hours

Prerequisite: 20-206, 20-316, and 20-318.

A study of electrical power generation, transmission, and distribution; load flow, faults, and system stability; system economics. Design project required.

Lecture: three hours.

20-404. *Quality Control and Reliability* Three Credit Hours

Prerequisites: 30-335 and 20-206, or consent of instructor.

Basic principles, procedures, and engineering management of industrial quality control. Inspection by attributes and by variables, rectifying inspection, control charts, and design of experiments. Case studies of effectiveness and reliability of electrical systems.

Lecture: three hours.

20-405. *Electrical Measurements* Two Credit Hours

Prerequisite: 20-302; prerequisite or corequisite: 20-415.

Precision methods of measuring electromotive force, resistance, current, inductance, capacitance, and dissipation factor; analysis of instrumentation circuits; design of experiments; analysis of experimental data.

Lecture: two hours.

20-407. *Systems II* Three Credit Hours

Prerequisite: 20-312.

A continuation of Systems I with primary emphasis on digital control systems. Topics covered include: state-variable analysis, simulation techniques, controllability, state-variable feedback, observability, and state estimator design.

Lecture: three hours.

20-413. *Advanced Topics in Electrical Engineering* Three Credit Hours

Prerequisite: 20-306 and 20-311 or consent of instructor.

Advanced topics in electrical engineering. Offered occasionally when the special interests of students and faculty coincide. The syllabus must be approved by the Electrical Engineering Faculty. This course may be taken only once for credit.

Lecture: three hours.

20-414. *System Simulation* Three Credit Hours

Prerequisites: 20-312.

An introduction to system concepts; mathematical models of systems; simulation methods applied to a broad range of systems. Design project required.

Lecture: three hours.

20-415. *Electrical Measurements Laboratory* One Credit Hour

Prerequisite or corequisite: 20-405.

A laboratory course to accompany 20-405.

Laboratory: two hours.

20-416. *Communications Engineering* Three Credit Hours

Prerequisites: 20-311, 20-306 and 20-312.

Principles of amplitude, frequency, and pulse modulation. Signal flow and processing in communications systems. Digital data systems.

Lecture: three hours.

20-421. *Design I* Three Credit Hours

Prerequisite: 20-302, 20-306, 20-312, 20-316, 20-330, and 20-318.

Required of electrical engineering seniors.

A study of the engineering design process; establishment of objectives and evaluation criteria, analysis synthesis, construction, testing, and evaluation. Exercises in design, documentation and reporting. Development of a proposal for a major design project for 20-422 Design II.

Lecture: one hour.

Laboratory: four hours.

20-422. *Design II* Three Credit Hours

Prerequisite: 20-421.

Required of electrical engineering seniors.

Implementation, documentation, and reporting on a major design project. Normally to be accomplished by students working in small groups. Each student will make a written and oral presentation on his contributions to the project.

Lecture: one hour.

Laboratory: four hours.

20-424. *Solid-State Devices* Three Credit Hours.

Prerequisites: 30-335 and 20-318.

Required of electrical engineering seniors.

Basic principles governing the operation of solid-state devices are developed from fundamental concepts. P-N junction theory is developed and applied to the analysis of devices such as bipolar transistors, solar cells, detectors, and photo devices. The theory of field-effect devices is developed. Formerly numbered 20-303.

Lecture: three hours.

20-426. *Antennas and Propagation* Three Credit Hours

Prerequisites: 20-318 and 30-335.

Transmission, radiation, and propagation of electromagnetic waves by means of transmission lines, waveguides, optical fibers, and antennas. Design project required.

Lecture: three hours.

20-428. *Digital Systems Design* Three Credit Hours

Prerequisite: 20-305.

Required of computer science majors.

Structure of digital systems; timing and control; input-output; digital data communications; microprocessors.

Lecture: three hours.

Department of English

epartment Head: Tucker
rofessors: Brennan, Redd, Rembert, Tucker
ssociate Professors: Alexander, Holbein, Mathis, White, O'Neil,
Rhodes, Edwards, Allen
ssistant Professors: Leonard, Shields, Mailloux, Lally

Courses in English composition and literature are required for all eshmen and sophomores, regardless of their major fields of study.

Advanced standing with credits may be given to entering cadets who mplete the College Entrance Board Advanced Placement Test in nglish with a grade of three or better.

The English major is designed for the student seeking a broad lucation suitable for a career in law, business, the armed forces, aching, dentistry, medicine, or theology. In addition to a strong undation in literature, the department offers a generous selection of ective courses that allows either a truly broad liberal arts education or opportunity to take a number of courses within a secondary field.

The program within the English Department provides both depth and xibility. Course offerings range from Anglo-Saxon literature to twentih century American literature. The interested student may take courses creative writing and in journalism. A system of tutorials and seminars lows both small classes and independent study.

By being allowed to take as many as ten courses outside the partment during his sophomore, junior and senior years, the student s ample latitude to follow other interests. During his freshman and phomore years, he may take a number of courses ensuring a background in a modern language, the sciences, mathematics, and the social iences.

In his freshman year the English major must elect one of the natural iences: biology, chemistry, or physics. Also, he must elect a modern nguage and complete two years of study. The entering freshman with two or more units in a modern language may complete the langua requirement in one year by starting at the 200 level. During t sophomore year the English major is required to take 70-221 and 70-2 (History of Western Civilization) and two approved elective courses.

In English the student is required to take 80-213 and 80-214 (Survey English Literature), 81-201 (Introduction to Philosophy), and one of t following: 80-211 (Mythology) or 80-212 (The Bible as Literature). Duri the junior and senior years he must take a minimum of three cour from Group A, Literature Before 1800, of which one course must be 8 317 or 80-318 (Shakespeare), a second course must be 80-301 (Chauc or 80-319 (Milton), and a third course must be an elective from Group other than 80-317, 80-318, 80-301 and 80-319. He must take three cour in Group B, Literature After 1800; two courses must be in Americ literature (80-341, 80-342, 80-343, or 80-344 of which one course must 80-342 or 80-343) and one course in British literature of this group. Group C, Criticism, Language, and Writing, he must take two cour but may not use more than one course in Writing to fulfill t requirement. The student shall pursue his interests by selecting four mo courses from the three groups. (Courses numbered in the 200 series, e. 80-205, 80-206, etc., cannot be used to fulfill this four course electi requirement.)

Unless otherwise indicated in the course descriptions, all advanc English courses are open to students who have completed their soph more English requirements (80-201 and 80-202 or 80-213 and 80-214) who have the approval of the department head.

For a tabulation of the requirements for the English major, see t Courses of Study section of this catalogue..

The courses in philosophy are included in the English curriculum und code number 81:

80-100. *English Fundamentals* No Cre

Drill in basic writing skills: mechanics, spelling, syntax, usage, a sentences. Recommended for all students whose test scores suggest th they are weak in the fundamentals of English. (Offered only in summ sessions.)

80-101 and 80-102. *Composition and Literature* Three Credit Hou
Each Semest

Required of all freshmen.

The development of the basic skills of writing and reading and literature evaluations through the study of literary types. 80-101: readi and evaluation of essays; writing of paragraphs and themes. 80-102: i oduction to fiction, poetry, and drama; writing of themes. 80-101 is a rerequisite for 80-102.

0-201 and 80-202. *Major British Writers* Three Credit Hours
Each Semester

Prerequisites: 80-101 and 80-102.

Required of all sophomores other than English majors.

Study in depth of major writers in British literature from the medieval eriod to the present. 80-201: Beowulf, Chaucer, Shakespeare, Milton, ope, and Swift. 80-202: Wordsworth, Keats, Tennyson, Browning, ardy, Yeats, and Eliot. Several themes assigned on the literature udied.

0-205. *Introduction to Public Speaking* Three Credit Hours

Prerequisite: 80-101.

Open to freshmen who have completed 80-101 and all upperclassmen.

The general principles of speech composition and speech presentation; ractice in expository speaking.

0-206. *Persuasive Speaking* Three Credit Hours

Prerequisite: 80-205.

Open to sophomores, juniors, and seniors.

Logic, rhetoric, and psychology of securing desired reactions from iendly, neutral, and hostile audiences; sources of speech material and lanning the speech; and improvement of volume, diction, rate, and latform manners in extemporaneous and manuscript delivery of class-oom speeches.

0-210. *General Semantics* Three Credit Hours

Open to sophomores, juniors, and seniors.

A psychological approach to the study of language as an abstracting rocess employing a system of verbal symbols for informative, directive, nd affective purposes.

0-211. *Mythology* Three Credit Hours

Open to sophomores, juniors, and seniors.

A study of mythology with special emphasis on Greco-Roman, orthern European and Eastern myths. A discussion of the leading eories concerning the origins, development, and significance of myths ogether with the allusive and allegorical use of myth in later literature nd art.

0-212. *The Bible as Literature* Three Credit Hours

Open to sophomores, juniors, and seniors.

A study of selected portions of the Old and New Testaments as litera masterpieces and cultural monuments, with some attention to the maj systems of interpretation.

80-213 and 80-214. *Survey of English Literature* Three Credit Hou
Each Semest

Prerequisites: satisfactory completion of 80-101 and 80-102 or th equivalent. Students who have received course credit for 80-201 and 8 202 cannot receive additional credit for 80-213 and 80-214.

Required of all English majors.

First semester: a study of English literature from its beginnings to t end of the eighteenth century. Second semester: a study of Engli literature from the end of the eighteenth century to the present. Bo courses will include some consideration of historical backgrounds a literary movements.

GROUP A
Literature Before 1800

English majors must complete a minimum of 9 hours in this area: 3 Shakespeare (80-317 or 80-318), 3 hours in Chaucer (80-301) or Milto (80-319), and 3 hours in one additional course of this group other tha 80-317, 80-318, 80-301, and 80-319.

80-300. *The Literature of Medieval England, exclusive of Chaucer* Three Credit Hou

Open to juniors and seniors.

A survey of the most important literature composed during the Ol English and Middle English periods, some in the original languages, som in translation.

80-301. *Chaucer* Three Credit Hou

Open to juniors and seniors.

An introduction to Chaucer's language, art, and cultural milieu throug readings of *The Canterbury Tales, Troilus and Criseyde,* and some of th shorter poems.

80-317 and 80-318. *Shakespeare* Three Credit Hour
Each Semeste

Open to juniors and seniors.

A study of representative plays—comedies and histories (80-317) an tragedies (80-318)—to give the student insight into the greatness o Shakespeare as dramatist and poet.

-319. *Milton* Three Credit Hours

Open to juniors and seniors.

A study of *Paradise Lost,* of *Samson Agonistes,* and of representative ose works, with special attention to their philosophical content.

-320. *Non-dramatic Literature of Sixteenth Century England* Three Credit Hours

Open to juniors and seniors.

A study of the principal writers of the period, with particular emphasis n the prominent aspects of the Renaissance spirit.

-321. *Seventeenth Century Poetry and Prose, exclusive of Milton* Three Credit Hours

Open to juniors and seniors.

A study of representative prose prior to the Restoration, of representa-ve poetry of Ben Jonson and his "sons," and of John Donne and the etaphysical poets.

-322. *Survey of English Drama to 1642, exclusive of Shakespeare* Three Credit Hours

Open to juniors and seniors.

A detailed study of representative plays, exclusive of Shakespeare's, om the medieval beginnings of English drama to the closing of the eatres in 1642.

-323. *Restoration and Eighteenth Century English Literature, 1660-1744* Three Credit Hours

Open to juniors and seniors.

A study of the new spirit of English prose and poetry which came with e Restoration. Some emphasis will be given to the philosophical, eligious, political, and social backgrounds. Major figures: Dryden, Swift, nd Pope, with some attention to the lesser writers of the period.

0-324. *The Age of Johnson, 1744-1798* Three Credit Hours

Open to juniors and seniors.

A study of the decline of Neoclassicism, the rise of prose, and the ovement toward Romanticism.

GROUP B
Literature After 1800

English majors must complete a minimum of 9 hours in this area: 6 ours in American literature (80-341, 80-342, 80-343, or 80-344 of which 3 ours must be 80-342 or 80-343) and 3 hours in a British literature course f this group.

80-325. *The Romantic Movement* Three Credit Hour

Open to juniors and seniors.

A study of the chief features which culminated in the Romanticism o the nineteenth century, with special emphasis on the five major poets Wordsworth, Coleridge, Byron, Shelley, and Keats.

80-326. *Victorian Poetry and Prose* Three Credit Hour

Open to juniors and seniors.

A study of the period from 1830 to 1900, showing the effects of th Industrial and Scientific Revolutions on traditional attitudes toward ar and life through the works of the major writers of the period, wit emphasis upon the poetry of Tennyson, Browning, and Swinburne an upon the prose of Carlyle, Arnold, Haxley, and Pater.

80-329. *The Development of the English Novel to 1900* Three Credit Hours

Open to juniors and seniors.

Lectures on narrative forms which preceded the novel and on lives and works of major eighteenth and nineteenth century novelists; reading and discussion of selected novels.

80-330. *The American Novel* Three Credit Hours

Open to juniors and seniors.

A course in the reading and critical analysis of selected American novels including from time to time novels by Cooper, Hawthorne, Melville, Twain, James, Hemingway, and Faulkner, among others.

80-331. *Modern Drama* Three Credit Hours

Open to juniors and seniors.

A study of representative plays to show the development of late nineteenth century English and twentieth century English and American drama under the influence of Ibsen, Strindberg, Pirandello, Maeterlinck, and other continental playwrights. Major figures include Shaw, O'Neil, Miller, and Williams.

80-332. *Modern British Novel from 1900* Three Credit Hours

Open to juniors and seniors.

A course in the reading and critical analysis of selected British novels by writers like Conrad, Joyce, Lawrence, Forster, Waugh, and some contemporary novelists.

80-333. *Southern Literature to 1900* Three Credit Hours

Open to juniors and seniors.

A survey of the literary achievement of Southern writers from 1710 to 1900.

-334. *Twentieth Century Southern Literature* Three Credit Hours

Open to juniors and seniors.

A study of the most important Southern authors of the twentieth ntury, from Ellen Glasgow to the present day, with emphasis on nificant regional topics such as the Fugitive and Agrarian Movements, development of the Southern Tradition, and the Southern Gothic hool.

-335. *Contemporary British Literature* Three Credit Hours

Open to juniors and seniors.

A study of selected British writers whose works are representative of ideas, literary techniques, and cultural patterns of England and land from World War II to the present.

-336. *Modern British Poetry* Three Credit Hours

Open to juniors and seniors.

A study of British poets from the 1890's until World War II with an phasis on the work of Hopkins, Hardy, the poets of the First World ar, Yeats, Thomas, and Auden.

8-341. *Early American Literature* Three Credit Hours

Open to juniors and seniors.

A study of American writings from the time of the first settlement rough the colonial period, ending with early nationalism.

8-342. *American Romantic Literature* Three Credit Hours

Open to juniors and seniors.

A study of American authors from the period of the establishment of a tional literature. The course includes such writers as Hawthorne, Poe, elville, Emerson, Thoreau, and Whitman.

-343. *Literature of American Realism* Three Credit Hours

Open to juniors and seniors.

A study of American literature following the Civil War and up to the entieth century. The course includes local colorists and such writers as ickinson, Twain, James, and Crane.

-344. *American Twentieth Century Literature* Three Credit Hours

Open to juniors and seniors.

A study of representative selections of modern and contemporary merican writers such as Robinson, Frost, Stevens, Fritzgerald, Hemingay, Faulkner and Eliot.

GROUP C
Criticism, Language, and Writing

English majors must complete 6 hours in this area.

80-405 and 80-406. *A Survey of World Literature* Three Credit Ho
Each Semes

Open to juniors and seniors.

80-405: Masterpieces of world literature in translation from the *R* *Veda* to Dante with special attention to the philosophical content and t development of literary forms.

80-406. Masterpieces of world literature in translation from Boccacc to the present time with special attention to the philosophical content a the development of literary forms.

80-407. *Principles of Literary Criticism* Three Credit Hou

Open to senior English majors and to any student who has complet four courses in English above the sophomore level, or approval of th department head.

A study of literary criticism from the classical tradition to the mode period.

80-411. *Writing in the Professions* Three Credit Hou

Prerequisites: 80-101 and 80-102.

The course emphasizes the application of the principles of effecti writing and of vocabulary development to a given profession such as law engineering, or medicine.

80-413. *Effective Writing* Three Credit Hour

The study and practice of advanced writing techniques for those wh wish to improve their prose styles. This course fulfills state teache certification requirements for advanced composition.

80-414. *Modern English Grammar* Three Credit Hour

Open to juniors and seniors and designed for the secondary-schoo teacher.

An analysis of the structure of Modern English, its phonology morphology, and syntax, with explorations into the conceptual basis o language and the way in which grammar generates meaning.

80-415. *The English Language* Three Credit Hours

Open to sophomores with approval of department head, and to juniors and seniors.

A survey of the English language beginning with the Indo-European backgrounds, tracing the development of Old, Middle, and Modern

English through major phonological, morphological, and syntactic changes, with some attention to dialectical variations and semantic changes.

80-417. *Journalism* Three Credit Hours

Open to sophomores with approval of department head, and to juniors and seniors.

Newswriting and copy editing with special emphasis on news and feature articles. Writing exercises, workshops, and laboratories involving such articles. Primary emphasis upon printed media but with some familiarization with the techniques of writing for radio and television.

80-421. *Senior Tutorial* Three Credit Hours

Prerequisite: approval of the department head.

Open to senior English majors.

A tutorial course individually designed to meet the needs or special interests of one or a few students. Assignments, tutorial sessions, tests and papers will be assigned by the professor in consultation with individual students.

80-423 and 80-424. *Senior Seminar* Three Credit Hours
Each Semester

Open to senior English majors.

A seminar on an individual author, topic, or problem, as suggested by members of the faculty or by groups of English majors and subject to the approval of the department head in consultation with the instructor.

80-425. *Adolescent Literature* Three Credit Hours

Open to juniors and seniors and designed for the secondary-school teacher.

A study of literature for the adolescent, including methods of introducing the major literary genres to the secondary-school student.

80-426. *Creative Writing* Three Credit Hours

Open to juniors and seniors.

Analysis of imaginative literature and directed practice of creative writing.

Philosophy

81-201. *Introduction to Philosophy* Three Credit Hours

An inquiry into the nature of philosophic thinking, especially with regard to the problem of knowledge and the nature of reality. Primary emphasis falls upon the classical origins of Western philosophy.

81-202. *Reasoning and Critical Thinking (Logic)* Three Credit Hours

A study of the principles and methods which distinguish valid from invalid arguments. After a brief examination of what an argument is, the concepts of validity and invalidity are introduced, and a systematic study of the principles governing the application of these concepts to arguments is undertaken. An extensive treatment of traditional Aristotelian logic (the syllogism, rules of validity, immediate inference, etc.) is supplemented by an introduction to principles of modern symbolic logic.

81-301. *Ethics* Three Credit Hours

A study of the nature of morality and moral reasoning through critical analyses of the writings of classical and contemporary thinkers on this subject. Problems regarding the role of reason in human conduct will be examined in detail, with emphasis upon the nature of the good life, happiness, moral obligation and duty, right and wrong, and the nature of moral language.

81-302. *Philosophy of Religion* Three Credit Hours

Prerequisite: three semester hours of philosophy.

An analysis of what religion is, the role it plays in human life, and how it differs from such other areas of life as ethics and science. The arguments for and against existence of God are examined, as is the appeal to religious experience (e.g., mysticism). Criticism of religion, e.g., that of Freud and Marx, is considered, as are the roles of faith and revelation and the questions of evil and immortality.

81-307. *Ancient Philosophy* Three Credit Hours

Prerequisite: three semester hours of philosophy.

A study of the foundations of Western thought: the pre-Socratic Greek thinkers; Socrates, Plato, Aristotle, and their schools with emphasis upon the major writings of Plato and Aristotle.

81-308. *Medieval Philosophy* Three Credit Hours

Prerequisite: three semester hours of philosophy.

A critical survey of neo-Platonism and subsequent scholastic philosophy, with emphasis upon the thought of Plotinus, St. Augustine, Erigena, St. Anselm, St. Bonaventure, St. Thomas Aquinas, and Scotus.

81-309. *Seventeenth and Eighteenth Century Philosophy* Three Credit Hours

Prerequisite: three semester hours of philosophy.

A study of the development and results of British empiricism and continental rationalism in the seventeenth and eighteenth centuries, culminating in the critical philosophy of Kant. The chief and most influential works of Locke, Berkeley, Hume, Descartes, Leibniz, and Spinoza will be read in an attempt to clarify and evaluate the problem of the conflict of reason and experience.

81-407. *Nineteenth Century Philosophy* Three Credit Hours

Prerequisite: three semester hours of philosophy.

Romanticism and evolution, reason and revolution: Hegel and the rise of social theory. A study of Hegel's enigmatic identification of the real and the rational, the dialectic which articulates it, and its subsequent interpretation and criticism from Marx through Nietzsche. Students will be encouraged to read and write on other thinkers of the period, including poets, historians, and scientists.

81-408. *Contemporary Philosophy* Three Credit Hours

Prerequisite: three semester hours of philosophy.

A study of the major philosophical movements and thinkers that shape our lives in the twentieth century. Existentalism, phenomenology, process philosophy, logical positivism, analytic philosophy, Sartre, Kierkegaard, Camus, Marcel, Husserl, Heidegger, Wittgenstein, Ayer, Russell, Moore, Ryle, Austin, Whitehead.

81-409. *Seminar in Philosophical Topics* Three Credit Hours

Prerequisites: at least junior standing and consent of the instructor.

A study of selected topics from various fields of philosophy (e.g., philosophy of history, philosophy of science, aesthetics, philosophy of law) with special emphasis upon their contemporary relevance and interdisciplinary character. Content in any given semester to be determined by student needs.

81-410. *Man in Crisis: The Problems of Good and Evil* Three Credit Hours

Prerequisites: at least junior standing and (due to limited enrollment) consent of the instructor.

A critical look at a variety of crises facing modern humanity and how they impact upon society; their trends, right/wrong, good/evil. Consideration of crises in relationship to theology, duty, freedom, honor, justice, law, and happiness. Some lecture, considerable discussion, and classroom presentation.

Department of History

Department Head: Coussons
The Mark W. Clark Professor of History: Porch
Professors: Coussons, Addington, Nichols, Harris, Brittain, J. Moore Tyler, White, Gordon, Tripp
Associate Professors: W. Moore, Barrett
Assistant Professors: Canevali, Bishop

The Department of History endeavors to give the student an acquaintance with and an appreciation of our heritage; to enable him to see causes and effects, contrasts and comparisons as shown in the development of civilization; to give him an accurate knowledge of the history of his own country and familiarize him with its institutions and the democratic ideals which have influenced American life; to acquaint the student who elects this subject with the standard works in its various fields and to prepare him to pursue graduate and professional studies.

A graduate with a major in history will, with his 24 hours of selected electives, be well qualified for the responsibilities of citizenship and also will have the broad background necessary for a successful career in business, medicine, law, the armed services, the church, and certain fields of science.

Students electing history as a major are required to take the following courses: 70-121 (Introduction to Ancient History), 70-122 (Introduction to Medieval History), 70-231 and 70-232 (Survey of Modern Europe, 1500-1815 and Survey of Modern Europe, 1815 to Present), 70-101 and 70-102 (A Survey of American History), 70-328 (History of England Since 1485), 70-424 (History of Modern Russia), 70-461 (The Modernization of China and Japan), and 71-109 (Elementary Geography). In addition, they are required to take 6 semester hours of advanced courses in American history during their junior year and also during their senior year.

From outside the department they are required to take 12 semester hours of a modern language; 5-201 (Economic Origins and Principles) and 5-202 (Economic Principles and Problems); 60-102 (American National Government); and 9 additional hours of Political Science (60-prefix) courses numbered at the 300-400 level. All cadets are required to take at least 12 semester hours of English, 8 semester hours of the same science, 6 semester hours of mathematics, and eight semesters of ROTC. For further details see the tabulation of the curriculum for history majors in the Courses of Study section of this catalogue..

70-101 and 70-102. *A Survey of American History* Three Credit Hours Each Semester

Required of all cadets.

Survey of American history from the period of discovery to the present; a brief treatment of the colonial period, followed by a more detailed study of such subjects as the causes of the Revolution, the framing of the Constitution, the development of political parties, the sectional conflict, economic progress and problems, and foreign relations; special emphasis placed on understanding the nature of American democracy and the role of the United States in world affairs from 1789 to the present.

70-121. *Introduction to Ancient History* Three Credit Hours

Required of all history majors.

A carefully highlighted survey designed to provide the beginner intending to major in history with a clear understanding of the importance and antiquity of the basic foundations, institutions, and problems of our world. Prehistory, Mesopotamia, Greece, and Rome are especially stressed, with briefer glimpses of the more significant developments in other areas of contemporary civilizations.

70-122. *Introduction to Medieval History* Three Credit Hours

Required of all history majors.

The Dark Ages; revival of civilization in the West under Charlemagne; feudalism and manorialism; the Holy Roman Empire; medieval warfare; rise of towns and the guild system; the medieval church and the papacy; the Crusades; the medieval world of Byzantium; the growth of Islam; Kievan Russia; the Mongol invasions; the Black Death; the decline of the papacy; the Hundred Year's War.

70-221 and 70-222. *History of Western Civilization* Three Credit Hours Each Semester

Required of sophmores majoring in English, modern languages, political science, and psychology.

A survey of the development of Western institutions, ideas, and cultures from the beginnings to the present day. Emphasis is given to the economic, social and cultural forces as well as to purely political and military ones. First semester to 1660, second from 1660 to the present.

70-231. *Survey of Modern Europe, 1500-1815* Three Credit Hours

Required of all history majors.

Continuation of the saga of Western civilization; the Renaissance and Reformation eras; the age of civil and religious wars; the nation state; the development of absolutism; the scientific revolution; the growth of the Russian Empire; the European power balance; the Age of Reason; the Agricultural and Industrial Revolutions; the era of the French Revolution and Napoleon.

70-232. *Survey of Modern Europe, 1815 to Present* Three Credit Hours

Required of all history majors.

Romanticism and the reaction to the French Revolution and Napoleon; liberalism, nationalism, industrialism; and the Revolutions of 1848; socialism, Darwinism, and the realist reaction; Italian and German unifications; imperialism; the road to World War I; the Russian Revolution; communism, fascism, economic stress, and the road to World War II; the Cold War; the era of the superpowers.

70-261. *History of Naval Warfare* Three Credit Hours

A survey of the history of naval warfare since ancient times, with emphasis on the historical development of naval strategy, tactics, organization, and influence on world affairs.

70-271. *The Old West* Three Credit Hours

A study of the settlement of the West and its influence on American life. Topics examined include: mountain men and missionaries; Indians and Indian figures; the cowboy and the cult of Western heroes; patterns of frontier violence; homesteading; mining towns; railroad building. Emphasis given to national traits, like individualism, associated with the frontier experience; and to the influence of the West on American life to the present day.

70-301. *History of Colonial America to 1763* Three Credit Hours

The motives of colonization; the evolution of self-government; the extension of the frontier; economic, social, and religious life; imperial rivalries.

70-302. *The American Revolution and the Establishment of the Union* Three Credit Hours

A study of American history, 1763-1800; the causes of the Revolution, War for American Independence, problems of Confederation, the establishment of the Union in the Federalist period.

70-303. *The Jeffersonian and Nationalist Period* Three Credit Hours

A study of American history, 1800-1850, with an emphasis on the clash of Federalist and Jeffersonian Principles; emerging political and cultural nationalism; the War of 1812; the influence of Jacksonian Democracy in the political, social, and economic life, growing sectionalism; and the Mexican War.

70-304. *Disunion and the War for Southern Independence* Three Credit Hours

The political, economic, diplomatic, and military history of the United States, 1850-1865, emphasizing the forces that tended to bind or disrupt the Union and including a detailed account of the war.

70-305. *America Comes of Age, 1865-1919* Three Credit Hours

Reconstruction, the last frontier, the advent of big business with its effects, the origins of American imperialism, the Spanish-American War, the Progressive movement, the First World War, and the Treaty of Versailles.

70-306. *The United States Since 1919* Three Credit Hours

Concentration is on the impact of modernization, depression, war, and the Cold War on the American nation. Jazz Age, New Deal, Fair Deal, etc., are studied, and succeeding decades are contrasted with one another.

70-321. *The High Middle Ages* Three Credit Hours

Europe from about 1200 to the Renaissance. The high tide of medieval civilization, often underestimated. The splendor of papacy and cathedral, the impressive mind of Aquinas, Roger Bacon, the genius of Chaucer, emergence of universities and ever-burgeoning town life. Medieval monarchies and empires.

70-322. *Renaissance and Reformation* Three Credit Hours

The Renaissance as a Europeanwide movement emanating from the Italian peninsula; the crisis of the church medieval and the rise of the Renaissance papacy; Humanism, with special emphasis on the great painters, architects, and sculptors such as Giotto, Brunelleschi, Donatello, Bontticelli, da Vinci, Raphael, and Michaelangelo; the Renaissance city-states, Machiavelli, and the Renaissance monarchies of France, England, Spain, and the Holy Roman Empire; the continuing crisis of the church medieval and the religious upheavals of Protestanism; the work of Luther, Calvin, Zwingli, and the Anabaptists; the Catholic Reformation;

the age of civil and religious wars; the Thirty Years' War and the Treaties of Westphalia.

70-323. *Absolutism and the Age of Reason* Three Credit Hours

Europe, 1648-1789, the ascendancy of France, emergence of Prussia and Russia, colonial rivalries, dynastic struggles, enlightment, and rationalism.

70-324. *The Era of the French Revolution and Napoleon* Three Credit Hours

A survey of the causes of the Revolution followed by an examination of the principal events of the period with stress on the major personalities, the development of ideologies and revolutionary mentality, the political and social aspirations of the lower social orders, and the unstable nature of the various revolutionary governments. The second half of the course will trace the rise of Napoleon and his achievements as civil administrator, military strategist, and commander. Special attention will be placed on Napoleon's campaigns, the French impact on Europe, and the reason for Napoleon's eventual downfall.

70-325. *History of Europe, 1815-1914* Three Credit Hours

A survey of Europe from Waterloo to Sarajevo; political reaction and reform; the Industrial Revolution and its economic, social, and political effects; the effects of nineteenth century nationalism; the renewed interest in imperialism, other factors in international rivalries and the coming of World War I.

70-326. *History of Europe Since 1914* Three Credit Hours

A survey of the origins and impacts of two World Wars on the major European states; the political, social, and economic development of the latter; and relative positions today.

70-327. *History of England to 1603* Three Credit Hours

A survey of English history from the earliest times to the death of Elizabeth I. Special attention is given the formation of the English people in the evolution of society and institutions, with emphasis on developments most significant for Americans today.

70-328. *History of England Since 1485* Three Credit Hours

Required of all history majors.

A survey of English history from the accession of the first Tudor to the triumph of the Welfare State. Emphasis is on those developments—political, economic, and social—that constitute the vital English legacy to Americans.

-401. *The American South* Three Credit Hours

The political, social, and economic development of the South from the 20s to the present with an emphasis on the region within the national ntext as one of both change and continuity.

-402. *South Carolina History* Three Credit Hours

A survey of the political, economic, social, and the intellectual evelopment of South Carolina from its discovery to the present, with nphasis on the relation of the state to the South and to the nation.

-410. *American Foreign Policy Since World War II* Three Credit Hours

Diplomatic problems arising from the war, increased responsibilities, e United Nations, American-Soviet rivalry, the Cold War, world treaties d commitments, national security strategies, economic policies, and her military and non-military initiatives in international relations.

0-411. *History of American Diplomacy* Three Credit Hours

The foreign relations of the United States from colonial times to the resent, primarily emphasizing the effects of domestic pressures upon olicy choices of the American government and the impact of these ecisions in the international environment. Approximately two-thirds of e course deals with the period 1914 to the present.

0-412. *The American Constitution in Historical Perspective* Three Credit Hours

An examination of how history has shaped the U.S. Constitution and ow its interpretation has changed history.

0-413. *Social, Intellectual and Economic History of the United States* Three Credit Hours

Analysis of the history of American thought, values and culture, and eir relationship to the modernization of social and economic life. mphasis given to such topics as the impact of Puritanism, Enlighten-ent, Darwinism, Pragmatism, and Freudianism; immigration, social obility, and the sources of social conflict; business and economic rowth; and the "mood of the people" as reflected in popular-culture aterials like film, photography, and fiction.

0-415. *Makers of Wealth: Business and Businessmen in American History* Three Credit Hours

Analysis of businessmen and business activity in American history and eir relationship to economic, social, political, and cultural development. opics examined include: business and economic growth; changes in corporate organization; cooperation and conflict in industrial relatior emergency and profiles of "big businessmen"; government politics ar business; and images of businessmen in American culture.

70-416. *Afro-American History, 1619 to Present* Three Credit Hou

A topic survey of Afro-American history from colonial times to tl present. Special emphasis given to slavery, antebellum free black Reconstruction, and "Black Power." Designed to explore the history the American black community.

70-417. *Social and Cultural History of The Non-Western World* One Credit Ho

The study of the origins and development of historical and cultur values, customs, as well as social and political institutions of selected no western cultures. Emphasis placed on the cultures of China, Japa Southeast Asia, the Indian Subcontinent, the Arab and Islamic world an sub-Saharan Africa.

70-421. *The Greeks* Three Credit Hou

From Mycenae through the Hellenistic era, with special emphasis o Greek spirit, mind, and culture. The "glory that was Greece," a evidenced by Homer, Pericles, Aristotle; by Marathon, Thermopyla Salamis; by temples, games, dramas, etc.

70-422. *The Romans* Three Credit Hour

From the foundation of the city to the fall of the Empire in the West The "grandeur that was Rome" — legions, building, administration conception — is examined as it evolved over the centuries to the collaps at the end of the fifth century.

70-424. *History of Modern Russia* Three Credit Hour

Required of all history majors.

History of the development of tsarist absolutism under the Romano dynasty and of the religious, social, and economic institutions of the tsarist state. Intensive treatment of the 1917 Revolution and the institutional development of the Soviet state to world power status.

70-426. *Economic History of Modern Europe* Three Credit Hours

A survey of the development of the European economy from the origins of the first Industrial Revolution to the Common Market particular emphasis upon those areas where increasing industrialization forced governmental action, changed social structure, and created new systems of thought.

-430. *England in the Twentieth Century* Three Credit Hours

The efforts of the English to solve their potential, economic, imperial, cial, and diplomatic problems since 1900.

-451. *Latin American History* Three Credit Hours

Using primarily an institutional approach, this course introduces the dents to present-day Latin America through an examination of the ea's heritage. Topics examined include the Indian, African, and Iberian ckgrounds. Roman and Moorish influences, and the lengthy colonial perience. After the wars of independence, the emergence and development of the several nations is treated. Students with additional interest in tin America might also consider 70-476 (Latin American Studies).

-461. *The Modernization of China and Japan* Three Credit Hours

Required of all history majors.

A study of the impact of Western imperialism on Southern Asia, hina, and Japan, and East Asia's response in the nineteenth and entieth centuries; special emphasis on the transition from traditional to odern nation-states, Confucianism in China, the samurai ethos in hinese communism, Japanese political militarism, and the demise of lonialism in Asia.

Special Studies
(Offered upon demand)

-471. *The Roaring Twenties* Three Credit Hours

The political, economic, social, and intellectual patterns and the foreign licy of the United States in the 1920s. The main theme is the transition the American nation from an agrarian, moralistic, isolationalist state o an urban, secularized, industrial power involved in foreign affairs. imary topical coverage includes psycho-historical sketches of Presidents ilson, Harding, and Coolidge; the impact of World War I; the struggle er the League of Nations; the Red Scare; the Washington Conference; aterialism and the revolution in morals; political and religious fundaentalism; the Scopes Trail; Prohibition; Gangsterism; the Ku Klux lan; the 1928 presidential campaign; and the Great Crash of 1929.

-472. *Depression and New Deal* Three Credit Hours

America in the thirties, from the crash of 1929 to the outbreak of war Europe ten years later. Causes and consequences of the Great epression; FDR and NRA, Big Labor, social conditions, etc.

70-473. *The Great Crusade: Americans and the Second World War* Three Credit Ho

A study of the United States in World War II which focuses up domestic society and the relationship of the changing culture to postwar America of global commitments and consumption of consum goods.

70-474. *The United States in the Postwar World, Korea to Vietnam* Three Credit Hou

Economic, social, intellectual, political trends, the conquest of spa and two controversial foreign wars, as Americans cope with growi Russian power.

70-477. *Central America and the Caribbean* Three Credit Hou

An analysis of the Caribbean basin with initial emphasis on its vari geography, several nations, and racial mix. Special attention is paid strategic concepts from the perspective of the United States. Overa emphasis is placed on a better understanding of the more recent even concerning Castro's Cuba, the Panama Canal, Nicaragua, El Salvado Grenada, etc.

70-481. *Hitler and National Socialism* Three Credit Hou

A survey of the Nazi movement from its late nineteenth centu antecedents to its culmination in 1945. Special emphasis will be given t the life of Hitler and to areas of controversial interpretation. Amon these are the alleged reactionary nature of National Socialism, the "lega rise of the party to power, the statesmanship of Hitler, his sanity, and th Holocaust.

70-482. *Studies in Soviet Policy* Three Credit Hour

Examination in depth of such topics as slave labor camps, activities o the secret police, causes of agricultural difficulties, foreign policy successe and failures.

70-483. *Great Captains: Major Commanders from Ancient Times to the Present* Three Credit Hour

An analytical and interpretative study of the character, styles o command, and achievements of the more influential commanders in the history of warfare from Alexander the Great to Rommel. Particula attention is given to the contributions of these historical figures, to thei role in the development of the concept of command and strategic formulation in the Western world, and to the relationship of military to political leadership. Among figures studied are: Alexander the Great, Hannibal, Caesar, William the Bastard, Gheghis Khan, Cromwell, Marlborough, Frederick the Great, Nelson, Napoleon, Wellington, Lee, Moltke, Rommel, MacArthur.

0-486. *Science, Technology, and the Modern World* Three Credit Hours

An interpretative study of the development of scientific thought and the npact of technological change in the modern world. Special emphasis is iven to the technological shaping of human cultures.

0-487. *The Patterns of War from Ancient Times to the Late 18th Century* Three Credit Hours

A study of the patterns of war from ancient times to the event of the merican Revolution with emphasis on the element of change in the technological, organizational, and social-political nature of war. The relationship between society and warfare is examined in ancient Egypt, Greece and the Roman Empire, in the Middle Ages, and in the early modern European civilization down to 1775.

(70-487 was formerly entitled Studies in Military Affairs Since the ighteenth Century)

0-488. *The United States and the Patterns of War since the Late Eighteenth Century* Three Credit Hours

The study of the developing patterns of war from the late eighteenth entury to the present, with emphasis on the impact of technology, ociety, politics, and military organization on the waging of war. The elevant wars of the period are covered in their broader aspects.

0-489. *History of the Vietnam War* Three Credit Hours

The history of the Vietnam War, including the foundations of French mperialism in Indochina in the nineteenth and twentieth centuries, native esistance to this movement to the end of World War II, the First ndochina War, 1945-1954, creation of two Vietnams, American policy nd intervention, withdrawal, and the fall of the Western oriented overnment. The course examines the impact of the war on American oreign, domestic, and military policies, as well as its impact on ndochina.

70-490. *Research Project* Three Credit Hours

Prerequisite: approval of department head and supervising professor.

An independent research project culminating in a formal paper. Research topic determined through consultation between student and upervising professor. Especially recommended for those students considering graduate or professional studies.

70-491. *Selected Studies* Three Credit Ho

Current crises, recurrent problems, and special interests of students a faculty, as circumstances dictate and permit.

Geography

71-109. *Elementary Geography* Three Credit Ho

Required of all history majors.

An introductory course dealing primarily with the elements a principles of geography. Familiarity with important global features a locations is stressed. Topics include: maps, oceans, atmosphere and win climate (elements and patterns), landforms, soils and agriculture, mine resources and industry.

71-310. *Cultural Geography* Three Credit Hou

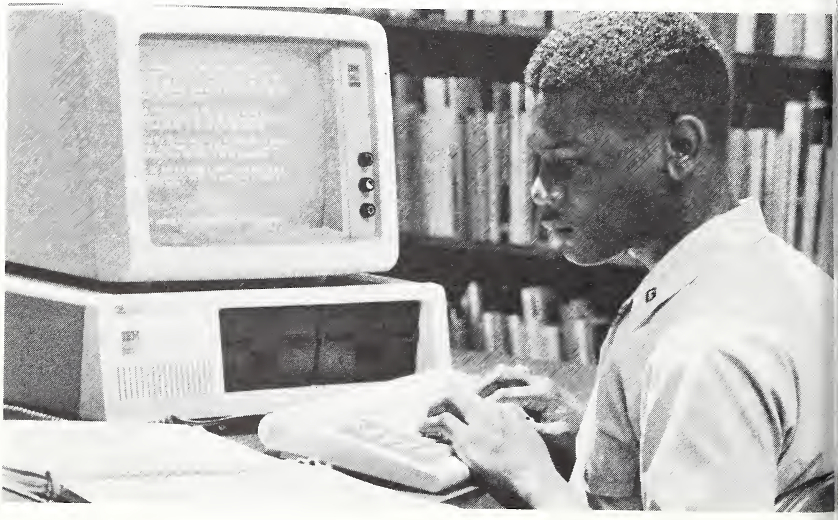
An application of geographic principles to human activities in select regions of the world. Cultural patterns are contrasted and compared the light of the physical environment.

71-311. *Economic Geography* Three Credit Hou

The geographic foundations and distributions of economic activities different parts of the world.

71-312. *Historical Geography* Three Credit Hou

A survey of geographical influences in prehistory and history. Variou theories of geographical determinism are evaluated against the backdro of historical realities.



Department
of
Mathematics and Computer Science

Department Head: Cleaver
Professors: Metts, Comer, Cleaver
Associate Professors: Crumley, Ingraham, Crabtree, Pages, Denig, Cohn, Greim, Durgun, Hoyle
ssistant Professors: Deutz, Francel, Hurd, Zahid, Riedel, Trautman

To meet the demands of a world in which mathematics is playing an increasingly important role, The Citadel requires of all students at least one year of mathematics. In the science and engineering majors, two or more years of mathematics must be completed. Students who are pursuing non-science degrees and who are well grounded in algebra are encouraged to complete 30-106 and 30-107 to meet mathematics graduation requirements.

This department offers three degree programs: the B.S. with a major in mathematics, the B.A. with a major in mathematics, and the B.S. with a major in computer science. Complete listings of the courses of study leading to these degrees are found in the Courses of Study section of this catalogue.

B.S. Mathematics Major

The B.S. program in mathematics is designed to prepare our students to pursue graduate work in pure or applied mathematics and to provide the background which will enable them to use mathematics in the behaviorial sciences as well as in more technical areas.

The course of study leading to the B.S. with a major in mathematics includes 18 semester hours of general electives to be chosen from mathematics courses numbered above 300 or from other fields, including computer science. The required courses are 9 semester hours of computer science, 36-201, 36-206, and 36-301; the following 40 semester hours of mathematics: 30-131, 30-132, 30-211, 30-231, 30-234, 30-240, 30-303, 3 318, 30-335, 30-403, 30-404, and 30-422; and 9 hours of mathemati electives chosen from: 30-301, 30-305, 30-405, 30-411, and 30-414. Tl complete program is shown in the Courses of Study seciton of th catalogue.

B.A. Mathematics Major

The B.A. program features a strong preparation in mathematics wit an additional opportunity to explore another field of study in son depth. The concentration (with the B.A. degree) is in mathematics; th secondary areas of study in the program are biology (medicine), busines administration, computer science, political science (law), or education fo those wishing to teach at the secondary level. The flexibility of thes courses of study makes this a truly interdisciplinary degree program.

The courses of study include a total of 42 semester hours in approve and general electives. The candidate must take 6 semester hours o computer science: 36-201 and 36-206; 28 semester hours of mathematics namely, 30-119, 30-131, 30-132, 30-211, 30-231, 30-232, 30-240, 30-301 and 6 semester hours of mathematics electives. Students pursuing thi major *must* select one of five approved sequences of study. An outline o a general course of study is provided in the Courses of Study section o this catalogue. Courses of study for each of the five areas of study ar available from the Department of Mathematics and Computer Science.

B.S. Computer Science Major

The B.S. program in computer science offers the student an academically sound experience in computer software complemented by a broad core of courses in the sciences and liberal arts, a background in mathematics which has sufficient breadth and depth to enable the student to deal with scientific applications as well as the theoretical basis of computer science, and an exposure to computer hardware (microprocessors) through courses offered by the Department of Electrical Engineering, 20-305 (Digital Systems Fundamentals) and 20-428 (Digital Systems Design). Through general electives, the student will have the opportunity to gain background in areas, such as business administration and political science, where the information processing aspects of computer sicence are readily applied.

Upon completion of this course of study, students (depending on their selection of electives) will be qualified for careers as systems analysts, system programmers, applications programmers for business or industry, or research. In addition, graduates will be well prepared to pursue advanced degrees in computer science or applied mathematics.

The course of study leading to the B.S. with a major in computer science includes 12 hours of general electives and 12 hours of mathematics and mathematics/computer science electives. Required courses in mathematics and statistics include 30-131, 30-132, 30-211, 30-240, and required courses in computer science include: 36-201, 36-202, 36-206, 36-301, 36-302, 36-313, 36-320, 36-401, 36-402, 36-405, 36-412, 20-305, and 20-428. The complete course of study is provided in the Courses of Study section of this catalogue.

Computer Science Laboratory

The Computer Science Laboratory is a modern computing facility which houses a PDP-11/44 computing system with more than 48 megabytes of disk storage. Running under the UNIX operating system, this facility supports 14 interactive terminals, an LA 120 system console, and a 300 line/minute printer. Included in the system software are a MACRO-11 assembler, a FORTRAN 77 compiler, a Pascal compiler, a text processor (NROFF), a compiler writer system (YACC), and a relational database management system (INGRESS). Together with the resources of the Academic Computer Center and the Digital Systems Laboratory of the Electrical Engineering Department, the Computer Science Laboratory provides our students firsthand experience with state-of-the-art system software and computer hardware — microprocessor to mainframe computer.

Mathematics Laboratory

The Mathematics Laboratory provides personal tutorial assistance for students having difficulties with freshman and sophomore level mathematics course work. Assistance is provided during the normal working day and during evening study periods.

This facility provides a microcomputer lab and serves as a source of additional materials — worksheets, workbooks, texts, journals, etc. — which have been selected to complement classroom work.

Both of these facilities have been established with funds provided by The Citadel Development Foundation.

30-100. *Non-Credit Basic Mathematics* No Credit

Offered only in the summer.

A review of high school mathematics to include basic algebraic operations and manipulations. The course is designed to assist the student in assessing readiness and to strengthen preparation for college level mathematics.

30-105. *College Mathematics I* Three Credit Hours

Prerequisite: Two years of high school algebra.

An introduction to Finite Mathematics with an emphasis on applications and the formulation of problems in mathematical language. Topics will include matrices, linear programming, sets, partitions, counting techniques. Formerly numbered 30-104.

30-106. *College Mathematics II* Three Credit Hours

Prerequisite: 30-105 or approval of department head.

Required for B.A. degree in chemistry.

An introduction to the calculus of polynomials, rational functions, exponential and logarithmic functions with an emphasis on applications to Business, and the Life and Social Sciences. Formerly numbered 30-127.

30-107. *College Mathematics III* Three Credit Hours

Prerequisite: 30-106.

Required for B.A. degree in chemistry.

A continuation of the calculus introduced in 30-106. Topics include techniques of integration, applications of integrals, improper integrals, and partial derivatives with an emphasis on applications. Formerly numbered 30-128.

30-119. *College Algebra and Trigonometry* Four Credit Hours

Required for B.A. degree in mathematics.

A modern treatment of the essential topics of college algebra and trigonometry. Required for the B.A. degree in mathematics but also offered for students whose mathematics requirement begins with calculus and whose background has been determined by the Department of Mathematics and Computer Science to be inadequate. Any student who has completed 30-119 and changes to non-science major must complete 30-106 to satisfy graduation requirements.

30-131 and 30-132. *Analytic Geometry and Calculus I and II* Four Credit Hours Each Semester

Prerequisite: 30-119 with grade of "C" or better, a satisfactory score on the Mathematics Achievement Test, Level II (see page 25), or approval of department head. For 30-132, a grade of "C" or better in 30-131 or approval of department head is required.

Required for B.S. degree in chemistry, computer science, engineering, mathematics, and physics and for the B.A. degree in mathematics.

A unified treatment of the theory and applications of plane analytical geometry and the differential and integral calculus of functions of one variable.

30-211. *Introductory Statistics* Three Credit Hours

Prerequisite: 30-105 or its equivalent.

Required for B.S. degrees in computer science and mathematics and for B.A. degree in mathematics; elective to others.

An elementary treatment of basic statistical concepts including frequency distributions, measures of central tendency and dispersion, probability, distributions (normal, etc.), sampling theory, estimation, hypothesis testing. Special emphasis is given to applications in the fields of biology, business, education, political science, and the behavioral sciences.

30-231. *Analytic Geometry and Calculus III* Four Credit Hours

Prerequisites: 30-131 and 30-132.

Required for B.S. degree in chemistry, engineering, mathematics, and physics, and for the B.A. degree in mathematics.

The analytical geometry of three dimensions, the differential and integral calculus of functions of two or more variables.

30-232. *Differential Equations* Three Credit Hours

Prerequisite: 30-107 and approval of department head or 30-132.

Required for B.S. degrees in chemistry and for the B.A. degree in mathematics.

Differential equations of the first order and degree, linear differential equations of higher order, miscellaneous differential equations, applications.

30-234. *Applied Mathematics I* Four Credit Hours

Prerequisite: 30-231.

Required for B.S. degrees in civil and electrical engineering, mathematics, and physics.

An integrated course in linear algebra and differential equations required for electrical engineering students. Topics are differential equations of the first order and degree, linear differential equations of higher order, vector spaces, bases, linear transformations, systems of linear equations, algebra of matrices, and determinants.

30-240. *Linear Algebra* Three Credit Hours

Prerequisite: 30-132.

Required for B.S. degrees in computer science and mathematics and for the B.A. degree in mathematics.

Vector spaces, systems of linear equations, basis, subspaces, algebra o matrices, inverses, determinants, orthogonal transformations, quadratic forms.

30-301. *Mathematical Models and Applications* Three Credit Hours

Prerequisite: 30-132.

Required for B.A. degree in mathematics.

An introduction to the theory and practice of building and analyzing mathematical models for real world situations encountered in the social, biological, and environmental sciences.

30-303. *Modern Algebra* Three Credit Hours

Prerequisite: 30-132.

Required for B.S. degree in mathematics.

Mathematical systems: groups, rings, integral domains, fields, vector spaces; advanced topics from linear algebra.

30-305. *Modern Geometry* Three Credit Hours

Prerequisite: 30-132.

Special topics from axiomatic geometries: Euclidean geometry, projective geometry, non-Euclidean geometry, metric projective geometry.

30-318. *Numerical Analysis* Three Credit Hours

Prerequisites: 36-301 and 30-232 or 30-234, or approval of department head. Required for B.S. degree in mathematics.

Approximation theory, roots of algebraic and transcendental equations, iterative methods, interpolation and approximation, numerical solution of differential equations, mathematical methods for the computer.

30-335. *Applied Mathematics II* Three Credit Hours

Prerequisite: 30-232, 30-234, or approval of department head.

Required for B.S. degrees in electrical engineering, mathematics, and physics.

Advanced topics in differential equations and multi-dimensional calculus. Topics include power series solution of differential equations, Laplace transformations, line and surface integrals. Fourier series, and an introduction to partial differential equations.

30-403 and 30-404. *Introduction to Analysis I and II* Three Credit Hours Each Semester

Prerequisite: 30-231.

Required for B.S. degree in mathematics.

Dedekind cuts, completeness, perfect sets, cantor sets, metric spaces, Heine-Borel theorem, sequences, series, continuity, differentation, implicit function theorem.

30-405. *Probability and Statistics* Three Credit Hours

Prerequisites: 30-132 and 30-211.

Combinatorial problems, discrete and absolutely continuous random variables, law of large numbers, central limit theorem, estimation, hypothesis testing, confidence intervals, maximum likelihood methods, non-parametric methods and robustness.

30-411. *Number Theory* Three Credit Hours

Prerequisite: 30-132.

The Euclidean algorithm, prime and composite integers, elementary Diophantine equations, Pythagorean triples, Euler's phi-functions, congruences, Euler-Fermat theorems, exponents and primitive roots, quadratic residues.

30-412. *History of Mathematics* Three Credit Hours

Prerequisite: 30-132.

A survey of the development of mathematics from the time of the ancients to the present, analysis of causes for the retardation of the advancement of mathematics in different centuries, selected readings to show the contributions of mathematics to the development of science.

30-414. *Topology* Three Credit Hours

Corequisite or Prerequisite: 30-303.

Set axioms, functions, relations, well-ordering, topological spaces, continuity, separations, metric spaces, compactness, connectedness.

30-415 and 30-416. *Reading Courses* Three Credit Hours Each Semester

Prerequisite: exceptional ability and background, and approval of department head.

Directed reading on assigned topics in mathematics, weekly conferences with the instructor, and a formal paper.

30-420. *Senior Research Project* Three Credit Hours

Prerequisite: exceptional ability and background, and approval of department head.

A research project and formal paper. Recommended for students planning graduate work. Approval for enrollment based on capability of applicant and the acceptance of a written proposal.

30-422. *Complex Analysis* Three Credit Hours

Prerequisite: 30-335 or approval of department head.

Required for B.S. degrees in mathematics and physics.

Topics from complex function theory: complex differentiation and integration, Cauchy theorem, complex series and uniform convergence, harmonic functions.

Computer Science

36-115. *Introduction to Computer Applications* Three Credit Hours

An introduction to the use of microcomputers through the BASIC Language, word processing, spread sheets, and data bases. Applications selected from the social sciences.

36-201. *Introduction to Computer Science I* Three Credit Hours

Prerequisites: 30-106 or 30-131 or the equivalent.

An introduction to problem solving and algorithm development using PASCAL. Topics include computer organization, operating systems, structured programming, and program modularization. Assignments involve designing, coding, debugging, and documenting computer programs. Students may not receive credit for both 36-201 and 36-215.

36-202. *Introduction to Computer Science II* Three Credit Hours

Prerequisite: 36-201 with a grade of C or better or approval of department head.

A continuation of the study of PASCAL begun in 36-201. Advanced programming concepts, including string processing, list processing, searching and sorting, recursion, and user-defined data types and data structures. Emphasis on good programming style and data structuring techniques.

36-206. *Introduction to Discrete Structures* Three Credit Hours

Prerequisite or corequisite: 36-201 and one semester of calculus.

Required for B.S. degrees in computer science and mathematics and B.A. degree in mathematics.

Review of set algebra including relations and functions. Ordered algebraic structures. Elements of combinatorial mathematics and the theory of graphs. Boolean algebra and propositional logic. Applications of these structures to various areas of computer science.

36-215. *Introduction to Applied Programming* Three Credit Hours

Prerequisite: 30-105.

Required for all business administration majors.

An introduction to computer applications designed for business. Programming applications in the management and social sciences to include available software packages in the areas of word processing, database management, and spread sheets, and a survey of a programming language.

36-301. *Applied Numerical Methods* Three Credit Hours

Prerequisites: 30-107 or 30-132.

Required for B.S. degrees in mathematics and computer science.

The Fortran language will be introduced to analyze computional problems and the development of computer techniques for their solution. An introduction to numerical methods, error analysis and approximation.

36-302. *Computer Organization and Programming* Three Credit Hours

Prerequisite: 36-202.

Required for B.S. degree in computer science.

A detailed introduction to computer organization and assembly language programming. The assembly process including linking and loading. Topics include machine representation of information, instruction codes, addressing techniques, macros, and subroutines.

36-306. *Management Information System* Three Credit Hours

Prerequisite: 36-215 or 36-201.

Computer-oriented information systems. Data collection, file organization, directory construction, and search techniques. On-line information retrieval, retrieval models and processes.

Designed as a follow-up to 36-215. Applications in the management and social sciences are presented in a microcomputer environment.

36-311 and 36-312. *Methods of Operations Research* Three Credit Hours Each Semester

Prerequisites for 36-311 and 36-312: Two semesters of calculus and knowledge of a high level programming language.

Prerequisites for 36-312: One semester of probability and statistics.

Applications and elementary theory of deterministic models in operations research to include linear programming and the simplex method, transportation and assignment problems, network analysis, game theory, integer programming, and sensitivity analysis; applications and elementary theory of probabilistic models in operations research to include queueing models, simulation, inventory models, decision analysis, and reliability.

36-313. *Introduction to COBOL* Three Credit Hours

Required for B.S. degree in computer science.

Basic programming in COBOL (structured approach); practice in writing and debugging programs with applications in business and mathematics.

36-320. *File Organization and Database Design* Three Credit Hours

Prerequisite: 36-202.

Required for the B.S. degree in computer science.

Topics include elementary data structures and file processing techniques; sequential, indexed sequential, and random access files; database concepts; hierarchical, network, and relational data models; query facilities.

36-401. *Data Structures* Three Credit Hours

Prerequisites: 36-202 and 36-206.

Required for B.S. degree in computer science.

Formal specificiation of data structures, implementation of these structures in programming languages, and analysis of algorithms. Topics include arrays, stacks, queues, linked lists, trees, string processing, sorting techniques, and file structures.

36-402. *Programming Languages* Three Credit Hours

Prerequisite: 36-202 or approval of department head.

Required for B.S. degree in computer science.

Programming language constructs emphasizes the run-time behavior of programs. Formal definition of programming languages including specification of syntax and semantics. Global properties of algorithmic languages including scope of declarations, storage allocation, grouping of statements, binding time of constituents, subroutines, and coroutines/ Parameter passing techniques. Control structures and data flow. Compilation versus interpretation of high level programming languages.

36-405. *Operating Systems and Computer Architecture* Three Credit Hours

Prerequisite: 36-302 or approval of department head.

Required for B.S. degree in computer science.

Topics will include instruction sets, I/O and interrupt structure, addressing schemes, microprogramming, procedure implementation, memory management, process management, system structure and evaluation, and recovery procedures.

36-412. *Principles of Compiler Design* Three Credit Hours

Prerequisites: 36-401 and 36-402.

Required for B.S. degree in computer science.

Grammars, languages, and their syntax and semantics. Finite state grammars and recognizers. Lexical techniques, syntax directed translation, attribute grammars, and code generation.

Department of Military Science

partment Head: Mayer
ofessor: Mayer
sistant Professors: Capps, Hillian, Howard, Lovin, McCarville,
Masterson, Richardson, Torrance

The Army ROTC program of instruction at The Citadel is geared ward teaching "hands on skills" that are required of the new second utenant in the active Army, Army Reserve, or Army National Guard. struction at all levels centers around leadership. The program includes truction in basic combat techniques, physical training, weapons, neral military subjects, tactics, and Army opportunities. In addition to core curriculum described, Army ROTC cadets at The Citadel are ovided the opportunity to learn advanced skills as members of the det airborne ranger company. Selected cadets also have the opportunity attend the Army's Airborne, Air Assault, and Ranger Schools as well to serve as "third lieutenants" with active Army and Reserve units.

Military science is a four-year program of instruction, divided into a o-year basic program and a two-year advanced program. The first year S I) addresses the role of the individual soldier through instruction and actical training in the areas of physical training, marksmanship, opelling, first aid, land navigation, U.S. weapons, and leadership. The cond year (MS II) builds upon the first through the development of ore advanced individual skills such as the compass; nuclear, biological, d chemical equipment; physical training; the principles of security and elligence; and small unit tactics. In addition, the cadet continues his dy of leadership at a more advanced level.

The first year of the advanced course (MS III) is directed toward acing the final touches on the contract cadet for his performance at vanced camp during the summer between his junior and senior year. e curriculum centers around instruction and practical training in land vigation and the use of the compass, military skills, the principles and techniques of squad and platoon operations, the principles of organiz tional leadership, the branches of the Army, U.S. Army weapons systen and leading physical conditioning activities. At the conclusion of t junior year, those cadets who have been selected for contract will attend six-week advanced camp at Fort Bragg, North Carolina. Camp is completely performance-oriented phase of instruction consisting of ran firing utilizing all the U.S. Army weapons of the combined arms tea field training exercises, hands-on instruction utilizing U.S. Army equi ment, and leadership training both in a garrison and field environment.

The final year of the advanced program (MS IV) consists of instructi in solving contemporary leadership problems; the principles of milita justice; the techniques of military writing; the evolution of current tacti weapons, and equipment; the composition of threat tactics and organiz tions; precommissioning seminars; and the application of combined arr tactics.

A prerequisite for entry into each level of Military Science instructi is the successful completion of the previous semester's course of instru tion. While transfer credit may be granted, no transfers will be accept without prior written approval of the department head, PMS, or h authorized representative.

Course of Instruction

8-101. *Introduction to Individual Skills* One Credit Ho
(First Semester—Fourth Class Year)

The first semester lays the foundation for the next four years instruction. It concentrates on building a cadet's confidence in himse and Army weapons and equipment. It begins with an explanation ROTC and the organization of the U.S. Army. The second block instruction covers performance-oriented training and provides the cad the opportunity to handle and operate U.S. Army weapons. Th remaining time provides the cadet opportunities to learn and apply fir aid skills.

8-102. *Leadership and Individual Skills* One Credit Ho
(Second Semester—Fourth Class Year)

The cadet is exposed to an introduction of the theory of leadershi concentrating on the traits of a leader and the principles of leadersh with a practice exercise utilizing the skills acquired in the classroom. Th highlight of the semester is the rifle range and qualification with the M- rifle. Finally, one block of instruction centers around topography.

201. *Individual Combat Techniques* Two Credit Hours
(First Semester—Third Class Year)

Here the cadet acquires additional basic skills in individual combat hniques. Nuclear, chemical and biological warfare further enhances ese combat skills. Map reading and security and intelligence training rther improve the individual's skills.

202. *Introduction to Small-Unit Operations, Leadership, Army Opportunity* Two Credit Hours
(Second Semester—Third Class Year)

The second semester expands on these skills by integrating them into uad combat techniques. Leadership theory shows how to employ these hniques. Branches of the Army and commissioning options are taught give the cadet an appreciation of the Army's overall function.

01. *Leadership Theory, Military Skills, and Branches of the Army* Three Credit Hours
(First Semester—Second Class Year)

The curriculum for the juniors is directed at preparing them for their rformance at Advanced Camp. In the first semester the cadets receives ditional instruction in leadership, nuclear, biological, and chemical rfare, first aid, and branches of the Army. Further instruction is given fire support and communications.

02. *Squad and Platoon Tactics, Land Navigation, and Advanced Military Skills* Two Credit Hours
(Second Semester—Second Class Year)

The second semester concentrates on final preparation for Fort Bragg d on teaching skills in a performance-oriented mode. The cadet learns vanced Squad and Platoon Tactics, Land Navigation, and Advanced ilitary Skills. Those cadets who have earned contracts will participate in ditional leadership training, physical training, and some field training ercises.

401. *Contemporary Military Subjects, Ethics and Professionalism and Professional Military Development* Three Credit Hours
(First Semester—Senior Year)

The main direction of senior year is to prepare the cadet for his first signment as a second lieutenant. The cadet learns how to plan and nduct military training. He also receives instruction on the Army gistical system and precommissioning requirements. A highlight of this semester is a block of instruction examining the ethics and professio alism of the officer corps.

8-402. *Professional Military Development* Two Credit Hou
(Second Semester—Senior Year)

The cadet's final semester centers around military law and addition skills required as a professional officer. The capstone of the senior year precommissioning activities which represents the cadet's final preparatic before entrance into the officer corps.

Department
of
Modern Languages

epartment Head: Johnson
rofessor: Johnson
ssociate Professors: Frohlich, Staley, McRae, Emory
ssistant Professors: Pieper, Gundel, Eesley

The study of a foreign language has long been recognized as a vital art of a liberal education, one which has as its primary purpose to help e individual understand the world in which he lives and his own place ithin that world. Knowledge of a foreign language is, however, ecoming an increasingly essential intellectual asset in dealing with ternational issues of today. The importance of being able to com-unicate effectively with the potential millions of non-English speakers in e areas of commerce, government, science, and the arts cannot be veremphasized. Equally important is gaining an acquaintance with and a nsitivity to differences in our own cultures and those beyond our orders.

Core curriculum language requirements stress reading, writing, listening, nd speaking skills and introduce the student to pertinent foreign cultures.

The language major is designed to enable the student to perfect his fluency the language of his choice and to provide the student opportunities to udy extensively and in depth the civilization and literature which are anifestations of that language. The major is a flexible one and graduates ave pursued careers in many varied professions including business, law, the ilitary, government, medicine, science, journalism, and education.

Plan of Undergraduate Major

Twenty-seven credit hours of course work in *one* language and at the 00-and 400-levels. For all majors these must include 301 and 302.

Three credit hours in 90-300, *Introduction to Linguistics,* is required.

Note that majors who are qualified may by-pass Elementary (101-102) nd Intermediate (201-202) courses in their chosen major language. No redit is awarded for the by-passed course or courses; electives must be taken o replace the by-passed courses.

Credit for Study Abroad

The Citadel offers a summer program for French in Paris and for Spanis in Madrid. Credit may be obtained for courses taken abroad during tl summer or the regular school year. Such work must have the prior approv of the head of the Department of Modern Languages from whom details this option are available.

Prerequisites

Courses in instruction in *languages* must be taken consecutively. That is, course numbered 101 precedes and is prerequisite to 102; 102 is prerequisi to 201; and 201 is prerequisite to 202.

Graduation requirements in languages may be satisfied only b appropriate sequences of courses in the same language. Thus, French 101 102 must be followed by French 201-202 (not German, Russian, or Spanis 201-202); and so forth.

Courses numbered 300 and above in a given language have, unles otherwise stated, 202 in that language as a prerequisite.

COURSES OF STUDY

General Courses

90-300. *Introduction to Linguistics* Three Credit Hour

Open to all students; required for language majors.

A survey of the history of languages and linguistics and a study of the components of human speech: phonetics, phonology, morphology; grammar, syntax, semantics; semiology, writing, literature.

Classical Languages

Offered only when demand warrants.

91-101 and 91-102. *Elementary Latin* Three Credit Hours Each Semester

Greek Language

Offered only when demand warrants.

91-101. *Beginning Greek, First Course* Three Credit Hours

Fundamentals of the Greek language: alphabet, pronunciation, grammar, and vocabulary combined with practice in reading simple Greek prose.

-102. *Beginning Greek, Second Course* Three Credit Hours

Grammar, vocabulary, and introductory reading, including selections om Herodotus.

-201. *Intermediate Greek, First Course* Three Credit Hours

Review of the major grammatical principles of Greek, and reading in veral classical works, including Plato and the New Testament.

-202. *Intermediate Greek, Second Course* Three Credit Hours

Reading in either the *Iliad* or *Odyssey* of Homer.

German Language and Literature

-101 and 93-102. *Elementary German* Three Credit Hours Each Semester

Pronunciation and the elements of German grammar and syntax; written id oral exercises; development of translation skills. Practice in the language boratory.

-201 and 93-202. *Intermediate German* Three Credit Hours Each Semester

Special attention to sentence structure; oral and written exercises. ranslation of cultural texts; practice in the language laboratory.

-301 and 93-302. *German Conversation and Composition* Three Credit Hours Each Semester

Prerequisite: 93-202 with a grade of "C" or better, or permission of the epartment Head.

Intensified practice in both formal and informal oral presentations in erman as well as practice in writing brief essays based on assigned adings.

3-303. *Readings in German Civilization* Three Credit Hours

A broad survey of German culture (architecture, painting, sculpture, usic, cuisine, etc.) and society from prehistoric times to the present. xtensive use of audiovisual materials, occasional field trips.

93-304. *Contemporary German Culture* Three Credit Hou

Readings in contemporary German culture with emphasis on curre institutions, customs, and trends.

93-307. *Business German* Three Credit Hou

Introduction to the language of economics, banking, commerc correspondence, sales, import-export, transportation, and corporations Germany.

93-421. *German Literature up to the Reformation* Three Credit Hou

An introduction to the significant authors, works, and movements i German literature from the *Hildebrandslied* (ca. 850) through th Reformation (ca. 1550) as seen in the context of the cultural, political, an intellectual cicumstances of this period.

93-422. *German Literature from the Baroque to Classicism* Three Credit Hour

A survey of German literature from about 1500 to 1800, with majo emphasis on the signficant work of this period, especially of the Strum an Drang and the Classical periods.

93-423. *German Literature of the Nineteenth Century* Three Credit Hour

An introduction to the major writers, movements, and genres of Germa literature of this period, but especially the Romantic movement and th development of the Novelle.

93-424. *German Literature of the Twentieth Century* Three Credit Hour

A survey of German literature since about 1890 (Naturalism) wit particular emphasis on the more recent authors and trends, and with a view to understanding the interrelations among social conditions, political events intellectual climate, and the literature of the time.

93-450. *Undergraduate Seminar: Masters of German Literature* Three Credit Hours

Study and interpretation of the works of one notable German author with a view to understanding his contribution to and influence on German life and letters.

This course formerly was numbered 93-214.

French Language and Literature

94-101 and 94-102. *Elementary French* Three Credit Hours Each Semester

Basic structure of French learned through understanding, reading, writing, and speaking simple French sentences. Attention to pronunciation and vocabulary expansion. Practice in the language laboratory.

94-201 and 94-202. *Intermediate French* Three Credit Hours Each Semester

Review of grammar with emphasis on sentence patterns; reading and translation.

94-203 and 94-204. *Intermediate French Composition and Conversation* Three Credit Hours Each Semester

Prerequisite: 94-102, or equivalent.

An intensive, systematic study of grammar and development of speaking and writing skills through readings, discussions, and compositions. May be taken in lieu of 94-201 and 94-202 to satisfy the language requirement. Offered during summer program in France.

94-301 and 94-302. *Advanced French Composition and Conversation* Three Credit Hours Each Semester

Prerequisite: 94-202 with grade of "C" or better, or permission of the department head.

Further development of writing and speaking skills.

94-303. *Readings in French Civilization* Three Credit Hours

A broad survey of French culture (architecture, painting, sculpture, music, cuisine, etc.) and society from prehistoric times to the present. Extensive use of audiovisual materials, occasional field trips.

94-304. *Readings in French Literature* Three Credit Hours

A course designed to introduce the student to the basics of French writing and literary analysis and to improve his reading ability through the use of carefully selected, graded readings in modern French.

94-307. *Business French* Three Credit Hours

Introduction to the language of economics, banking, commerce, correspondence, sales, import-export, transportation, and corporations in France.

94-390. *Special Topics in Contemporary French Culture* Three Credit Hours

A survey of current trends in art, architecture, music, cuisine, film, and literature, as well as in popular culture, in France. Visits to museums, concerts, theater, etc. Weekly journal of cultural and cross-cultural experiences. Offered during summer program in France.

94-391. *Special Topics in Contemporary French Usage* Three Credit Hours

A course designed to acquaint students with the French of today as a language in evolution; particular attention to current usage of slang, jargon, and neologisms. Offered during summer program in France.

94-421. *French Classicism and Enlightenment* Three Credit Hours

A study of the principal writers of the seventeenth and eighteenth centuries in France. Major figures: Corneille, Moliere, Racine, Pascal, La Fontaine, La Bruyere, Voltaire, Diderot, Rousseau.

94-422. *French Literature of the Middle Ages and Renaissance* Three Credit Hours

A study of representative works composed in the Middle Ages and Renaissance, in modern French translation.

94-423. *French Literature of the Nineteenth Century* Three Credit Hours

A study of the works representative of Romanticism, Realism, Naturalism, and Symbolism, with special emphasis on developments in the novel and lyric poetry.

94-424. *French Literature of the Twentieth Century* Three Credit Hours

A study of the major writers and literary movements—Surrealism, Modernism, Existentialism, Theatre of the Absurd, Nouveau Roman—from the turn of the century to the present.

94-450. *Undergraduate Seminar: Studies in Individual Authors* Three Credit Hours

A comprehensive study of the work of one major French author with a view to understanding its relation to the body of French literature.

This course formerly was numbered 94-214.

Italian Language

Offered only when demand warrants.

5-101 and 95-102. *Elementary Italian* Three Credit Hours Each Semester

5-201 and 95-202. *Intermediate Italian* Three Credit Hours Each Semester

Review of grammar, readings in Italian literature, conversation, and vriting.

Spanish Language and Literature

6-101. *Elementary Spanish, First Course* Three Credit Hours

Exercise in pronunciation; elements of reading, writing, and simple onversation. Practice in the language laboratory.

6-102. *Elementary Spanish, Second Course* Three Credit Hours

Vocabulary-building, grammar, conversation, and cultural readings, ractice in the language laboratory.

6-201. *Intermediate Spanish, First Course* Three Credit Hours

Review of grammar, selected readings, and practice in the sound aboratory.

6-202. *Intermediate Spanish, Second Course* Three Credit Hours

Readings in literature, history, etc., involving use of dictionaries. ractice in the sound laboratory.

6-203 and 96-204. *Intermediate Spanish Composition and Conversation*

Prerequisite: 96-102 (or equivalent) and permission of professor.

Intensive course in oral and written Spanish; to be taken concurrently, n lieu of 96-201 and 96-202. Offered only during summer program in pain.

6-301 and 96-302. *Advanced Spanish Composition and Conversation* Three Credit Hours Each Semester

Prerequisite: 96-202 with a grade of "C" or better, or permission of the epartment head.

Conducted mostly in Spanish. Oral and written reports on cultural opics; complete review of verb tenses.

96-303. *Readings in Spanish Civilization* Three Credit Hours

A broad survey of the culture of Spain (architecture, painting, sculpture, music, cuisine, etc.) and society from prehistoric times to the present. Extensive use of audiovisual materials, occasional field trips.

96-304. *Readings in Spanish American Civilization* Three Credit Hours

A general survey of the culture of Spanish America from Pre-Columbian times to the present (architecture, painting, sculpture, music, cuisine, etc., as well as social and political developments). Extensive use of audiovisual materials, occasional field trips.

96-307. *Business Spanish* Three Credit Hours

Introduction to the language of economics, banking, commerce, correspondence, sales, import-export, and corporations in Spain and Spanish America.

96-321 and 96-322. *Spanish American Literature* Three Credit Hours Each Semester

Most of this course will focus on study of the major Spanish American writers of the 1960s who have achieved world recognition: Borges, Fuentes, Cortazar, Vargas Llosa, and Garcia Marquez. There will also be an analysis of Spanish American writers who imitated earlier Peninsular Spanish American currents such as Pre-Columbian literature and such themes as the Mexican Revolution, the gaucho, and civilization versus barbarism.

These courses formerly were numbered 96-217 and 96-218.

96-390 and 96-391. *Special Topics in the Spanish Idiom and Culture*

Prerequisite: 96-202 (or equivalent) and permission of professor.

In-depth study of contemporary Spanish culture by direct participation in Spanish society. Special activities and written work assigned according to student need and current availability. Offered only during summer program in Spain.

96-420. *Spanish Literature of the Middle Ages and Renaissance* Three Credit Hours Fall Semester Only

The history and interpretation of the first works in the Spanish tradition. The literary history of the period will be surveyed and illustrated with selected texts.

This course formerly was numbered 96-321.

6-421. *The Golden Age I* Three Credit Hours

Surveys of the masterpieces of Spain's Golden Age of Literature. evelopment of the *comedia.* The literary history will be illustrated by elected works of Lope de Vega, Tirso de Molina, Ruiz de Alarcon, alderon de la Barca, and other seventeenth century playwrights.

This course formerly was numbered 96-211.

6-422. *The Golden Age II* Three Credit Hours

The literature of the late sixteenth and seventeenth centuries in the panish Peninsula. A study of the character of Don Quixote, the first ramaticization of the Don Juan legend, and the appearance of the *icaro.*

This course formerly was numbered 96-212.

6-423. *Nineteenth Century Literature of Spain* Three Credit Hours

A survey of Romanticism and its sequel, the movements of Realism nd Naturalism in the novel. The literary history will be illustrated with elected texts.

This course formerly was numbered 96-215.

6-424. *Twentieth Century Literature of Spain* Three Credit Hours

Literary trends and authors since the turn of the century. The course vill consider critics such as Unamuno, thinkers such as Ortega y Gasset, obel prize winners such as Benavente and Jimenez, recent authors such s Garcia Lorca, and current writers such as Alberti.

This course formerly was numbered 96-216.

6-450. *Undergraduate Seminar: Individual Spanish Authors* Three Credit Hours

A comprehensive study and interpretation of one major Spanish uthor's work.

This course formerly was numbered 96-214.

Russian Language

7-101 and 97-102. *Modern Russian I* Three Credit Hours Each Semester

Basic, conversational Russian, stressing verbal communication through he learning of simple, relatively brief dialogues including instruction in asic grammar and practice in reading and writing skills. Practice with aped materials essential.

97-201 and 97-202. *Modern Russian II* Three Credit Hour
Each Semeste

Continuation of the goals of *Modern Russian I* with increase emphasis on written communication and reading narrative selections an on language laboratory practice.

Directed Individual Study

93-341 and 93-342. *German Language and Literature (Junior Year)* Three Credit Hour
Each Semeste

These courses formerly were numbered 93-333 and 93-334.

93-441 and 93-442. *German Language and Literature (Senior Year)* Three Credit Hours
Each Semester

These courses formerly were numbered 93-444 and 93-445.

94-341 and 93-342. *French Language and Literature* (Junior Year) Three Credit Hours
Each Semester

These courses formerly were numbered 94-333 and 94-334.

94-441 and 94-442. *French Language and Literature* (Senior Year) Three Credit Hours
Each Semester

These courses formerly were numbered 94-444 and 94-445.

96-341 and 96-342. *Spanish Language and Literature (Junior Year)* Three Credit Hours
Each Semester

These courses formerly were numbered 96-333 and 96-334.

96-441 and 96-442. *Spanish Language and Literature (Senior Year)* Three Credit Hours
Each Semester

These courses formerly were numbered 96-444 and 96-445.

Directed Individual Study courses enable students with special interests, suitable preparation, and high academic standing to receive instruction and guidance in selected subjects which are not otherwise treated in the department's regularly scheduled courses of instruction. Directed Individual Study courses may not be repeated, and are open only to juniors and seniors with the assent of the instructor and the permission of the department head.

Department of Naval Science

Department Head: Smith
Professor: Smith
Assistant Professors: Downing, Hazel, LeBlanc, Mack, Mahoney, McNally, Reinecke, Underdahl, Venable

The Department of Naval Science course of instruction is designed to provide young men with the basic professional knowledge and leadership skills needed to become Navy and Marine Corps officers. In the initial two years all students receive an orientation to the various branches of the Navy and Marine Corps, followed by courses in basic naval engineering and weapons and an overview of seapower.

Students may receive their final two years of instruction in either Navy or Marine Corps courses. Navy students study seamanship and the art of navigation; Marine option students study the historical development of warfare and amphibious operations. Both options conclude with practical leadership training designed as final preparation for assuming the responsibilities of a junior officer in the Navy or Marine Corps.

Practical training in sailing and shiphandling and frequent visits to local Navy and Marine Corps facilities are provided to complement classroom training.

Sequence of Naval Science Courses

- Fourth Class Year
  - All Naval cadets
    - 9-101 (Introduction to Naval Science)
    - 9-102 (Naval Ships Systems I (Engineering))
- Third Class Year
  - All Naval cadets
    - 9-201 (Naval Ships Systems II (Weapons))
    - 9-202 (Seapower and Maritime Affairs)

Second Class Year
- Candidates for U.S. Navy commissions
  - 9-301 (Navigation)
  - 9-302 (Naval Operations)
  - 9-312 (Shiphandling Laboratory)
- Candidates for U.S. Marine Corps commissions
  - 9-303 (Evolution of Warfare I)
  - 9-304 (Evolution of Warfare II)

First Class Year
- Candidates for U.S. Navy commissions
  - 9-401 (Naval Leadership and Management I)
  - 9-402 (Naval Leadership and Management II)
- Candidates for U.S. Marine Corps commission
  - 9-403 (Amphibious Warfare)
  - 9-404 (The Marine Company Grade Officer)

Description of Courses

9-101. *Introduction to Naval Science* One Credit Hour

This course provides the student with a basic understanding of the mission, organization, regulations, and broad warfare components of both the Navy and Marine Corps. Included is an overview of officer and enlisted rank and rating structures, procurement and recruitment, training and education, promotion and advancement, retirement policies, courtesy and customs, discipline, leadership, ship's nomenclature, and challenges facing today's Navy and Marine Corps officers. (Navy and Marine faculty taught.)

9-102. *Naval Ships Systems (Engineering)* Three Credit Hours

This course provides the student with a basic understanding of the types, structure, and purpose of naval ships. Details of ship compartmentation, propulsion systems, auxiliary power systems, interior communications, ship design, and ship stability characteristics are examined. (Navy faculty taught).

9-201. *Naval Ships Systems II (Weapons)* Two Credit Hours

This course provides the student with a basic understanding of the theory and applicable principles relating to the operation of naval weapons systems. Details of weapons coverage, by type, and fire-control systems, including capabilities and limitations, target acquisition, identification and tracking of targets, trajectory principles, and basics of naval dnance are examined. Principles of the use of electronic components, mputer functions, and sound energy are included. (Navy faculty ght.)

02. *Seapower and Maritime Affairs* One Credit Hour

This course provides the student with a basic knowledge of seapower d maritime affairs. It is oriented toward the general concept of power, including the United States Marine Corps and Merchant rine, the role of various warfare components of the Navy and Marine rps in supporting the Navy's mission, the application of seapower as instrument of national power, and a comparative study of United tes and Soviet Naval strategies. (Navy and Marine faculty taught.)

01. *Navigation* Three Credit Hours

This course provides the student with a working knowledge of the ory and practice of piloting and celestial navigation. Includes radar vigation, lines of position, fixes, complete site reduction by *Hydro-phic Office Publication 229* and the *Nautical Almanac,* and a brief roduction to electronic navigation systems. Practice applications are essed in weekly exercises. (Navy faculty taught.)

02. *Naval Operations* Three Credit Hours

Prerequisite: 9-301.

This course provides the student with a detailed survey of the Rules of Nautical Road and the theory and use of maneuvering boards for ution of relative motion problems. Also introduced are various other ics, including weather, shiphandling, and naval communications. vy faculty taught.)

03. *Evolution of Warfare I* Three Credit Hours

This course provides the student with a general knowledge of the art d concepts of warfare and its evolution from the beginning of recorded tory to the present. Included are the considerations of the influence t leadership, political, economic, sociological, and technological factors ve had on warfare and the theoretical principles behind modern ategy and tactics. (Marine faculty taught.)

04. *Evolution of Warfare II* Three Credit Hours

Prerequisite: 9-303.

This course enables the student to acquire a working knowledge of the re practical aspects of warfare and the United States Marine Corps. e general principles of warfare addressed in 9-303 are considered as y relate to the small unit level. Tactical aspects of offensive and ensive combat are examined in detail. The student is given the opportunity to master skills required of the small unit leader with a emphasis on land navigation. (Marine faculty taught.)

9-312. *Shiphandling Laboratory* No Cred

This course provides the student with a basic understanding of th controllable and uncontrollable forces involved in shiphandling. Th student will have the opportunity to practice mooring, man overboar drills, and anchoring in a realistic training environment. (Navy facul taught.)

9-401. *Naval Leadership and Management I* Two Credit Hou

This course provides the student with a basic understanding of th fundamental concepts and principles of naval leadership and management. Theoretical aspects of the management functions and processes a examined, and their applications to the naval profession are discussed. I addition, motivation and motivational theories, counseling technique and effective communicative skills are studied and applied to nav leadership and management roles. This course is taught using lecture experimental exercises, case studies, self-study exercises, and role-playin exercises. The goal of this course is to provide students with th fundamental concepts, principles, and sources of information necessary t establish a sound basis for their initial performance and future growth a junior officers.

This course also provides students with the values and motivatio which prepare them for service with the sense of honor and integrit required of a commissioned naval officer. (Navy faculty taught.)

9-402. *Naval Leadership and Management II* One Credit Hou

This course provides the student with guidelines for assuming the dutie and responsibilities as a junior Navy officer during his initial tour of dut following graduation and commissioning. In addition, this course familiarizes the student with and helps him develop an understanding of th duties and responsibilities of the junior naval officer and shipboar division officer in the following leadership areas: human resource management, personnel management, material management, and divisio discipline administration. This course also prepares the student for th personal and professional responsibilities that he will encounter immediately upon commissioning. This is the final course in the Nava ROTC curriculum, and it synthesizes the managerial and professiona competencies developed by the students in the previous summer's at-se training and previous naval science courses. This course provides a capstone in all major areas of naval leadership immediately prior to commissioning. (Navy faculty taught.)

403. *Amphibious Warfare* Three Credit Hours

This course provides the student with a basic understanding of the ncept of projecting seapower ashore through use of both waterborne d helicopterborne amphibious forces. Details concerning the evolution amphibious warfare as an element of naval power and instrument of tional strategy combined with applicable principles and techniques of nducting amphibious warfare are examined. (Marine faculty taught.)

404. *The Marine Company Grade Officer* No Credit

This course provides the student with a basic understanding of the mpany grade officer's responsibilities within the Marine Corps, emasizing his role as a junior commander and staff officer, and ncentrating upon command and staff relationships, effective coordinan, administration, training, counseling, military justice, and other arine officer responsibilities. (Marine faculty taught.)

Department of Physical Education

Department Head: Smyth
Professors: Ezell, Feigl, Smyth
Associate Professors: Styles, Teague, Wilson
Instructor: Carter

The purpose of the Department of Physical Education is to provic experiences which will lead to skills, knowledge, and attitudes within th domains of human movement and healthful living, contributing to a improved quality of life. These experiences are available through fou distinct yet interacting programs.

Required Physical Education Program

The primary objective of the RPE program is to provide basi instruction in adult physical fitness and recreational sports which will b of both immediate and lasting value for each cadet. **All cadets ar required to complete four semesters of RPE.**

Fourthclassmen (Freshmen)

All freshman cadets must in the fall semester successfully complete 57 101.

57-101. *Foundations of Physical Education*

The purpose of this course is to provide basic information in the area of exercise physiology, diet and weight control, and various exercis programs which will aid the cadet in making intelligent decision regarding future participation in physical activity.

Lecture: one hour; laboratory: one hour.

During the spring semester each freshman cadet must enroll in one of th following 100 level or selected 200 level courses in accordance with hi interest and/or skill level.

'-103. *Survival Swimming*

A beginning swimming course designed for adults who are classified as ɔn-swimmers or poor swimmers. Required of all cadets who do not pass e test of minimal swimming ability administered by the Department of hysical Education.

'-105. *Intermediate Swimming*

A course consisting of instruction in the five basic swimming strokes, lf-rescue, and basic lifesaving techniques.

'-106. *Beginning Wrestling*

A course which introduces the student to the basic skills, rules, and rategies of amateur wrestling.

'-107. *Team Handball*

A course which combines features of soccer and basketball into a fast-oving, exciting team game. Emphasis is placed on learning the dividual skills and strategies which comprise a coordinated team effort.

'-108. *Tumbling and Apparatus*

A course providing instruction in the basic skills in seven events umbling, side horse, still rings, vaulting, parallel bars, horizontal bars, ıd trampoline) leading to the development of routines of these events ong with safety, spotting, rules, and terminology.

'-109. *Fundamental Basketball*

This course provides instruction in basic skills such as dribbling, ıssing, shooting, and rebounding, and the use of these skills and rategies in a team effort.

7-110. *Individualized Physical Education*

A course providing an individualized approach to prerequisite sports ɔmponents including, but not limited to, cardiovascular vand muscular ıdurance, strength, flexibility, and agility.

7-111. *Beginning Racquetball*

A course designed to provide instruction in the rules, skills, and rategies of playing four-wall racquetball, including singles, doubles, and ːut-throat" (three-man) play.

7-200. *Developmental Physical Education*

This course provides the information and the opportunity for cadets to ıeet the minimal criteria for health related fitness components established ɔr the Corps of Cadets. Required for cadets who fail the college fitness ːst and those who are referred by the physical education department or ıdet athletic officers. *This course will not meet graduation requirements.*

57-228. *Advanced Lifesaving (ARC)*

A course which meets the requirements of the American Red Cr and CNCA. Successful completion of the course may result in A certification.

57-233. *Water Safety Instruction (ARC)*

Prerequisite: 57-228 or valid advanced lifesaving certificate.

An instructor's course which may result in ARC certification for levels of swimming.

Thirdclassmen (Sophomores)

All sophomore cadets must successfully complete two semesters RPE selected from the following courses.

57-220. *Archery*

A course which provides instruction in the basic knowledge and skil of target archery.

57-221. *Badminton*

A course which teaches knowledge, skills, and strategy necessary t participate in badminton as a lifetime sport.

57-222. *Bowling*

A course which teaches etiquette, scoring, and basic skills necessary t participate in bowling as a recreational pursuit.

57-223. *Fencing*

A course which teaches basic knowledge, skill, and strategy c competitive foil fencing.

57-224. *Beginning Golf*

A course which teaches grip, stance, and swing development, as well a knowledge of rules and strategy of recreational and competitive golf.

57-225. *Handball*

An introduction to the rules, skills, and strategies required for single doubles, and "cut-throat" (three-man) play.

57-226. *Judo*

A comprehensive coverage of the history, dojo etiquette, ukem (breakfall), nagewaza (throwing), and ne-waza (grappling) techniques.

57-227. *Skin and Scuba Diving*

Techniques of using mask, snorkel, and fins and scuba equipment ar taught. Materials are presented to acquaint the student with informatio related to underwater physics and physiology.

-228. *Advanced Lifesaving (ARC)*

A course which meets the requirements of the American Red Cross d CNCA. Successful completion of the course may result in ARC rtification.

-229. *Beginning Tennis*

A course which emphasizes grip, stance, footwork, and basic movement tterns in the execution of serve and ground strokes and stresses owledge of rules and etiquette.

-230. *Weight Training*

A course which stresses proper lifting techniques as well as knowledge ncerning the relationship between weight training and various sports ograms.

-231. *Trampolining*

A course covering basic, intermediate, and advanced skills and routines which the student progresses at his own rate.

-232. *Volleyball*

A course which teaches the serve, pass, set, and spike as well as the owlege and strategy necessary to participate successfully in team play.

-233. *Water Safety Instructor (ARC)*

Prerequisite: 57-228 or valid advanced lifesaving certificate.

An instructor's course which may result in ARC certification for aching all levels of swimming.

7-234. *Jogging*

A course which presents jogging as a means of developing and aintaining a satisfactory level of cardiovascular fitness.

7-235. *Intermediate Tennis*

Prerequisite: 57-229 or equivalent.

This course requires minimal skills (serve, forehand, and backhand ound strokes) and presents more advanced skills such as lob, smash, nd net play in addition to advanced strategy in singles and doubles play.

7-236. *Sailing and Canoeing*

A course which includes basic knowledge and skill concerning small iling craft and canoes.

7-237. *Soccer*

A course designed to present the student the skill, knowledge, and rategy necessary for successful participation in recreational or compet-ive soccer.

57-238. *Track and Field*

A course which introduces the student to basic running and fie events, emphasizing the mechanics, skills, and strategies necessary f successful participation.

57-239. *Flag Football*

A version of football, modified to limit contact, with special emphas on rules and strategies of play.

57-240. *Sigma Delta Psi*

A course designed to prepare the student for the tests administered t this national athletic facility.

57-241. *Modern Bicycling*

A study of modern multispeed bicycling, emphasizing the elements care, maintenance, and safety and the techniques of physical preparatio for racing and touring. Students must have their own bicycles.

57-242. *Orienteering*

A presentation of the skills for cross-country running with map an compass.

57-243. *Water Skiing*

A progressive presentation of water skiing skills from land drill through proper power boat handling to basic, intermediate, and advance techniques with the double and single (slalom) equipment.

57-244. *Beginning Snow Skiing*

A comprehensive course which includes pre-skiing conditioning, dressin for the elements, equipment, chairlift and tow-rope safety, and skiin under various conditions.

57-245. *Intermediate Snow Skiing*

Prerequisite: 57-244 or satisfactory performance of skiing fundamentals.

An intermediate course which includes the application of the techniques involved in edge control and carving which will develop the individual's interest in moguls, racing, free style, ballet, and aerials.

Intramural Athletic Program

The intramural athletic program represents an integral part of the cadet's life and is, therefore, strongly recommended for all cadets not involved in intercollegiate athletics or comprehensive sports clubs. The program consists of 23 activities including both individual and team sports. All team activities have been separated for freshman and upperclass participation to give all cadets an opportunity to engage in the more vigorous competitive sports.

Badminton
Basketball (FR)
Basketball (UC)
Basketball Golf
Bowling (FR)
Bowling (UC)
Table Tennis
Team Handball
Tennis
Flag Football (FR)
Flag Football (UC)
Golf
Gymnastics
Handball
Racquetball
Track
Volleyball (FR)
Volleyball (UC)
Sigma Delta Psi
Soccer
Softball (FR)
Softball (UC)
Steeplechase
Swimming
Wallyball
Water Polo
Weight Lifting
Wrestling

Note: For further information regarding the intramural program see the handbook, *Intramurals, Sports Clubs and Recreation—The Citadel.*

Sports Club Program

The Sports Club program is administered through the Department of Physical Education by a council composed of representatives from each of the various clubs. Currently bicycling, bowling, crew, fencing, gymnastics, judo, karate, lacrosse, parachute, pistol, rugby, sailing, and surfing clubs hold membership on the council.

Note: For further information regarding the Sports Club Program see the handbook, *Intramurals, Sports Clubs and Recreation—The Citadel.*

THE PHYSICAL EDUCATION MAJOR

The purpose of the professional preparation program is to prepare the major for selected involvement within the broad field of physical education while maintaining reasonable flexibility for adaptation beyond he specialty area. This is accomplished through the offering of six professional opportunities within two tracks, the teaching track and the non-teaching track.

The Teaching Track

Admissions requirements for all teacher education programs are presented in the Department of Education section of this catalogue.

The professional physical education teacher must have an undertanding of the meaning and significance of movement, the growth and development of the individual, and the application of physical, biological, and behavioral sciences to the actual teaching/learning process. The curriculum for the prospective physical education teacher is designed to build progressively upon meaningful concepts and experiences acquired within other disciplines as well as those which are unique to the profession. In addition, competencies which have been identified with successful teaching methodology are an integral part of the curricular content.

Completion of the curricular requirements may result in certification by the South Carolina Department of Education to teach physical education in grades K-12.

Additional certification in health education may also be pursued through electives in the following courses.

*47-303	Human Anatomy	3 credit hours
*47-304	Human Physiology	3 credit hours
47-406	Ecology	4 credit hours
51-309	Psychology of Individual Behavior	3 credit hours
*58-300	First Aid and Emergency Care	3 credit hours
58-401	Nutrition	3 credit hours
58-402	Drug and Substance Abuse	3 credit hours
58-403	Human Sexuality	3 credit hours
58-404	Public Health	3 credit hours
58-405	Health Problems in the Classroom	3 credit hours
*58-406	The School Health Program	3 credit hours

*Required Courses

The Non-Teaching Track

Alternatives to the teaching of physical education are available through each of five specialty areas: Sports Programming, Health Services, Physical Therapy, Athletic Training, and Exercise Science.

The *Sports Programming* specialty is designed to prepare the student for a multitude of professional opportunities which include community and industrial recreation, resident and day camp operation, resort sports programming, and college/university intramural/recreational sports. Specific preparation in communication skills, administrative techniques, psychological and sociological foundations, and organizational skills are presented through a concentration of 5 courses selected from among the following:

59-417	Intramural and Recreation Programs	3 credit hours
59-408	Introduction to Sports Psychology	3 credit hours
59-433	Elementary School Physical Education	3 credit hours

36-201	Introduction to Computer Science I	3 credit hours
5-409	Personnel Management	3 credit hours
61-201	Sociology	3 credit hours
61-202	Social Problems	3 credit hours

The *Health Services* specialty is structured to prepare the student for rofessional opportunities within the scope of public and private health gencies. Selected preparation in the biological sciences, contemporary ealth issues, personal and social relationships and public health proramming is accomplished through the completion of 5 courses selected om the following:

47-310	Microbiology	4 credit hours
47-404	Ecology	4 credit hours
51-201	General Psychology	3 credit hours
51-309	Psychology of Individual Behavior	3 credit hours
51-403	Psychology of Learning & Motivation	3 credit hours
58-403	Human Sexuality	3 credit hours
58-404	Public Health	3 credit hours
61-201	Introduction to Sociology	3 credit hours
61-202	Social Problems	3 credit hours
61-304	Abnormal Psychology	3 credit hours

The *pre-Physical Therapy* specialty includes those courses which are quired for admission to various physical therapy programs throughout e nation. Five courses are selected from the following:

26-205/255, 26-206/256	Physics for Biology and Premedicine	8 credit hours
or 26-203/253, 26-204/254	Physics for Liberal Arts	
40-103, 40-104	Introduction to Chemistry	6 credit hours
40-113, 40-114	Introduction to Chemistry Laboratory	2 credit hours
47-302	Comparative Vertebrate Anatomy	4 credit hours
51-201	General Psychology	3 credit hours

Three credit hours must be selected from one of the following: thropology, economics, history, sociology, or political science.

The specialty in *Athletic Training* prepares the student for certification y the National Athletic Trainers Association through the field experience d examination provision. In addition, subject matter relevant to the eld of athletic training is provided through 5 courses selected from the llowing:

51-201	General Psychology	3 credit hours
51-305	Social Psychology	3 credit hours

51-306	Theories of Personality	3 credit hours
51-309	Psychology of Individual Behavior	3 credit hours
51-403	Psychology of Learning and Motivation	3 credit hours
51-404	Applied Psychology	3 credit hours
59-408	Introduction to Sports Psychology	3 credit hours
59-432	Methods of Athletic Coaching	3 credit hours

The specialty in *Exercise Science* affords the outstanding undergraduate student with the preparation essential for future graduate study in one of several advanced areas leading to careers in adult physical fitness, rehabilitation, research, or higher education. Based upon interest and aptitude the student may select 5 courses from the following:

26-205/255, 26-206/256	Physics for Biology and Premedicine	8 credit hours
26-301	Biological Physics	4 credit hours
36-115	Introduction to Computer Applications	3 credit hours
40-207, 40-208	Organic Chemistry	6 credit hours
40-217, 40-218	Organic Chemistry Laboratory	2 credit hours
40-409	Biochemistry	3 credit hours
47-302	Comparative Vertebrate Anatomy	4 credit hours
47-308	Genetics	3 credit hours
47-310	Microbiology	4 credit hours
47-403	Mammalian Physiology	4 credit hours
47-413	Comparative Physiology	4 credit hours

NOTE: The Exercise Science program includes General Chemistry 40-101, 40-102, 40-111, 40-112 to complete the physical science requirement.

Course Descriptions

59-401. *Introduction to Physical Education* Three Credit Hours

A study of the philosophies, aims, objectives, and principles of physical education as an integral part of the total education of man; past, present, and future. Professional development and career opportunities are also emphasized.

59-102. *Learning Theory and Methodology in Physical Education* Three Credit Hours

A presentation of basic learning theory and methodology as related to the acquisition of gross motor skills.

Lecture: two hours; field experience: two hours.

59-205. *Measurement and Evaluation in Physical Education* Three Credit Hours

A course which includes test selection and administration, analysis, and nterpretation of data for various cognitive, affective and psychomotor ommonly associated with physical education.

Lecture: three hours.

9-240. *Methods of Teaching Wrestling* Two Credit Hours

Prerequisite: 59-101 or 50-201.

A course designed to explore the various aspects of wrestling such as he history and development, mechanical principles, training techniques, nd offensive and defensive strategies.

Lecture: one hour; laboratory: two hours.

9-241. *Methods of Teaching Soccer* Two Credit Hours

Prerequisite: 59-101 or 50-201.

A comprehensive study of the history, rules, training techniques, trategies, and skills essential to the teaching of soccer.

Lecture: one hour; laboratory: two hours.

9-242. *Methods of Teaching Lifetime Sports* Two Credit Hours

Prerequisite: 59-101 or 50-201.

A methodological treatment of selected contemporary lifetime sports vhich may include, but not be limited to, racquet sports, golf, archery, nd bowling.

Lecture: one hour; laboratory: two hours.

9-243. *Methods of Teaching Aquatics* Two Credit Hours

Prerequisites: 59-101 or 50-201 and 57-228 or valid lifesaving certificate.

A comprehensive coverage of teaching methods as applied to beginning hrough competitive swimming, basic through advanced lifesaving, aquatic ames, and small craft safety.

Lecture: one hour; laboratory: two hours.

9-244. *Methods of Teaching Rhythmic Activities* Two Credit Hours

A methodological treatment of fundamental rhythmics, creative rhythnics, traditional dance steps, folk dance, square dance, social dance, inging games, and polyrhythmic activities for the elementary grades hrough high school.

Lecture: one hour; laboratory: two hours.

9-314. *Kinesiology* Three Credit Hours

Prerequisites: 47-303 and 47-304.

The anatomial and mechanical analysis of functional posture and notor performance for the purpose of understanding and recognizing fficient and inefficient movement.

Lecture: two hours; laboratory: two hours.

59-340. *Methods of Teaching Baseball* Three Credit Hou

Prerequisite: 59-101 or 50-201.

An in-depth study of the history, rules, development, equipmen theory, and strategy of contemporary baseball.

Lecture: one hour; laboratory: two hours.

59-341. *Methods of Teaching Track and Field* Two Credit Hour

Prerequisite: 59-101 or 50-201.

A thorough analysis of all aspects including historical, developmenta mechanical, and technical components.

Lecture: one hour; laboratory: two hours.

59-342. *Methods of Teaching Basketball* Two Credit Hour

Prerequisite: 59-101 or 50-201.

A comparative study of defensive and offensive systems of team play analysis of the basic individual skills and team strategy; and interpretatio of rules and knowledge of officiating.

Lecture: one hour; laboratory: two hours.

59-343. *Methods of Teaching Gymnastics* Two Credit Hours

Prerequisite: 59-101 or 50-201.

A presentation of historical and theoretical aspects of gymnastics, tumbling, and developmental activities with respect to skills, teaching methods, and the conduct of gymnastic meets.

Lecture: one hour; laboratory: two hours.

59-344. *Methods of Teaching Football* Two Credit Hours

Prerequisite: 59-101 or 50-201.

A comparative presentation of offensive-defensive systems of play with attention also given to the placement of personnel, training techniques, drills, rules, and strategies.

Lecture: one hour; laboratory: two hours.

59-345. *Methods of Adult Health and Physical Fitness* Two Credit Hours

A course designed to equip the student with the necessary skills and knowledge to plan and conduct a safe and effective program for others. The topics of basic exercise physiology, participant evaluation, program planning, exercise prescription writing and liability will be studied.

Lecture: one hour; laboratory: two hours.

59-400. *Internship in Teaching* Twelve Credit Hours

Observation and teaching in an approved school under the direction of a cooperating teacher and a college supervisor.

Lecture: two hours; field experience: twenty hours.

59-402. *Care and Prevention of Athletic Injuries* Three Credit Hours

Discussion, demonstration, and application of the skills and procedures utilized in athletic training.

Lecture: two hours; laboratory: two hours.

59-403. *Special Physical Education* Three Credit Hours

Identification of various physical, mental, and emotional anomalies with implications for physical education. Attention is given to procedures involved in "mainstreaming" the special student as well as procedures employed in the special school.

Lecture: two hours; laboratory: two hours.

59-404. *Administration of Physical Education* Three Credit Hours

A study of administrative philosophy and procedures which relate to curriculum and program development, finance, budgets and purchasing, and the legal aspects of teaching and coaching.

Lecture: three hours.

59-406. *Directed Field Experience* Three Credit Hours

Open as an elective to senior physical education majors only.

A controlled exposure to professional experiences in a selected area which may include, but not be limited to, athletic coaching, athletic training, physical therapy, intramurals, recreation, recreation therapy, and public health education.

Lecture: one hour; field experience: six hours.

59-408. *Introduction to Sports Psychology* Three Credit Hours

Analysis and interpretation of current research in the areas of maturation and development, learning theory, perception, personality, motivation, and group dynamics which relate directly to physical education and competitive athletics.

Lecture: three hours.

59-417. *Intramural and Recreation Programs* Three Credit Hours

A study of the history, philosophy, and practical and theoretical bases of intramural and recreational programs.

Lecture: three hours.

59-419. *Physiology of Exercise* Three Credit Hours

Prerequisites: 47-303 and 47-304.

An in-depth study of the effect of exercise upon the components of physical fitness, including, but not limited to, strength, muscular endurance, flexibility, and cardiovascular-respiratory endurance.

Lecture: two hours; laboratory: two hours.

59-420. *Senior Research Project* Three Credit Hours

A research problem conducted as an independent study. The topic and procedure for this study must be approved by the department faculty.

59-421. *Senior Seminar* One Credit Hour

A seminar conducted for the purpose of reviewing subject matter from all courses in the physical education curriculum and which culminates in a comprehensive written and oral examination.

59-431. *Administration of Interschool Athletics* Three Credit Hours

A study of the policies and procedures involved in interschool athletic administration.

Lecture: three hours.

59-432. *Methods of Athletic Coaching* Three Credit Hours

A practical application of research in the areas of learning conditions, practice and training schedules, and selection, analysis, and placement of skills; evaluation and selection of personnel; and coach-player interaction.

Lecture: three hours.

59-433. *Elementary School Physical Education* Three Credit Hours

A study of the progressively graded program of activities for the elementary schools, grades K-6. Theoretical as well as practical material will be developed for each grade.

Lecture: three hours.

Health Education Courses

The following block of courses represents an opportunity for the student to take health education courses as electives within various curricula. These courses may then be applied toward teacher education in health education (24 semester hours).

58-101. *Personal and Community Health* Three Credit Hours

The presentation of a body of knowledge from the biological and social sciences considered essential in making sound decisions regarding health maintenance and conducive to the development of proper health values.

Lecture: three hours.

58-300. *First Aid and Emergency Care* Three Credit Hours

A comprehensive coverage of safety concepts and accident prevention as well as the presentation of specific topics such as the cursory examination, wounds, traumatic shock, asphyxia, cardiac arrest, burns, toxins, and bone, joint, and muscle injuries.

Lecture: three hours.

-401. *Nutrition* Three Credit Hours

A detailed study of the primary nutrients essential to health with ention given to specific needs from infancy through adulthood. Current :ories and practices related to physical and intellectual performances are o investigated. Contemporary topics are presented such as degenerative eases, food-borne diseases, fad dieting, food additives, and health ›ds.

Lecture: three hours.

-402. *Drug and Substance Abuse* Three Credit Hours

An in-depth study of the characteristics of commonly abused drugs and ›stances and the reasons for their abuse.

Lecture: three hours.

-403. *Human Sexuality* Three Credit Hours

A comprehensive presentation of all facets of human sexuality with ention given to appropriate methods of instruction for elementary, ddle, and secondary schools.

Lecture: three hours.

-404. *Public Health* Three Credit Hours

An analysis of public health trends, services, funding, and organization local, state, and federal agencies.

Lecture: three hours.

405. *Health Problems in the Classroom* Three Credit Hours

A course designed to provide the elementary, middle, and high school ssroom teacher with the knowledge to identify, manage, or refer health ›blems commonly encountered in the school environment. Available to ysical education majors as an elective with the approval of the ›artment head.

Lecture: three hours.

-406. *The School Health Program* Three Credit Hours

A study of the total school health program and the role of the teacher thin the program.

Lecture: three hours.

-407. *Methods and Materials in Health Education* Three Credit Hours

A course designed to prepare the potential health educator in the areas curriculum design at all grade levels, teaching methods, teaching styles, d evaluation.

Lecture: three hours.

58-408. *Health and Epidemiology* Three Credit Ho

A course designed to acquaint the potential health educator or pul health worker with the science of epidemiology and the techniques u in the study of disease frequency.

Lecture: three hours.

58-409. *Workshop in Family Life Education* Three Credit Ho

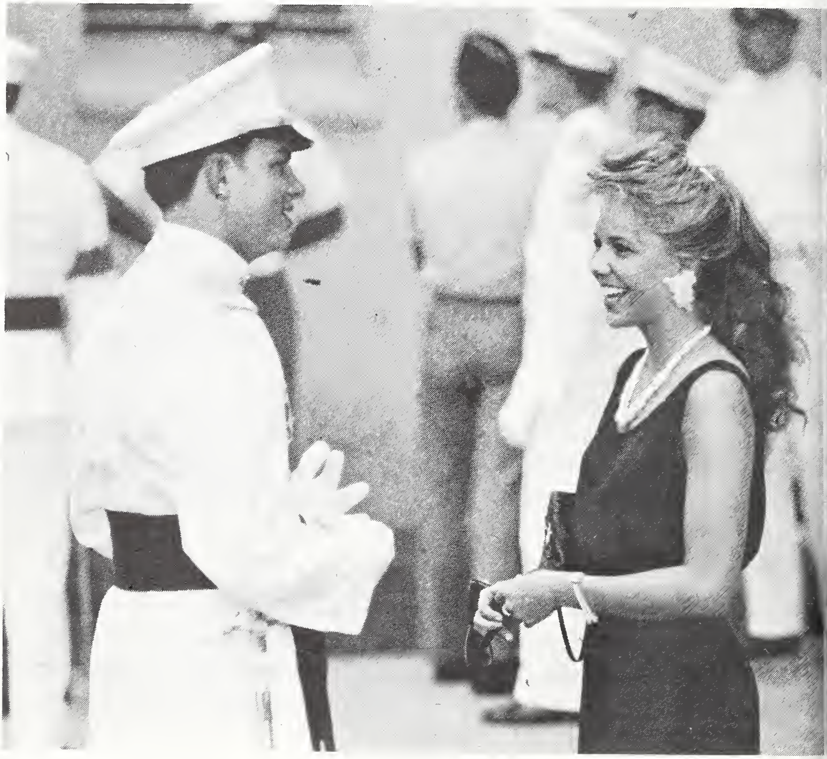
A course designed to prepare the health educator in the promotion a teaching of family life education in the schools. The course will focus promotion, planning, and implementation of program at all grade levels.

Lecture: three hours.

58-410. *Consumer Health* Three Credit Ho

A course designed to provide factual, and scientifically based inforn tion about medical goods and services as well as development consumer skills in the areas of decision-making, values clarificati assertiveness, bargaining, bidding, data collection, and data analysis.

Lecture: three hours.



Department of Physics

epartment Head: Hurren
rofessors: Hurren, Berlinghieri
ssociate Professors: Byrd, Adelman, Briggs, Rembiesa

Physics, the study of matter and radiation, is basic to all other sciences nd to engineering disciplines. Developments such as radar, the transistor, ntegrated circuitry, lasers, computers, and space science were primarily he creations of the research physicist; and present-day research in ndamental particles, plasmas, field theory, superconductivity, and solid-tate physics has produced a rich harvest of revolutionary devices.

The Department of Physics offers three introductory sequences. For the on-science major, 26-203/253 and 26-204/254 (Physics for Liberal Arts Majors) constitute a survey sequence which emphasizes basic principles, ith particular attention paid to the exciting developments of today's esearch efforts and applications to modern technology. For the biologist nd potential doctor or dentist, 26-205/255 and 26-206/256 (Physics for iology and Premedicine) offer the basic principles, but with emphasis on he ideas and techniques which apply to these fields. For the scientist, ngineer, and mathematician, and for students preparing to be secondary chool teachers in General Science or Physical Science, 26-210/260, 26-11/261, and 26-212/262 (Physics for Engineers and Physical Scientists) over the fundamental principles of physics using some elementary alculus. Descriptive courses in elementary astronomy, 26-201 and 26-202, re provided as electives. All basic science sequences have concomitant aboratories.

The program for physics majors is flexible. The student who does not ntend to make physics his profession can at the discretion of the head of he department replace up to six credit hours of physics courses umbered above 300 with courses numbered above 300 in other science ields.

The physics student who plans to attend graduate school or to work i an industrial, testing, or government institution will find the physic curriculum complete and rigorous. Upper-division courses cover electronics, classical mechanics, electromagnetic theory, thermodynamics optics, quantum mechanics, and mathematical methods. Of special not are courses 419 (Research Planning) and 420 (Senior Research Project) These two courses give the advanced student an opportunity to apply hi education to a theoretical or experimental study project, or to the desig and construction of apparatus.

The department sponsors a student section of the American Institute o Physics to provide extracurricular activities and training for physic students.

26-101. *Introduction to Physics* Two Credit Hour

Required of all freshmen majoring in Physics.

An elementary course consisting of lectures on physics topics in thei historical context from Galileo to the present. Class notes and library reading will be required.

Lecture: two hours.

26-201. *Astronomy* Three Credit Hours

A descriptive introduction to the Universe. Our Sun and its solar system; the Earth and the other planets, asteroids, comets; the Sun as a star; our Milky Way Galaxie; the local group of galaxies; the structure of the universe. 26-251 laboratory is optional.

Lecture: three hours.

26-202. *Topics in Astronomy* Three Credit Hours

The material in this course covers cosmology and cosmogony, life in the universe, and the possibility of humans traveling to nearby stars. This course may be taken independently of 26-201. 26-252 laboratory is optional.

Lecture: three hours.

26-203 and 26-204. *Physics for Liberal Arts Majors* Three Credit Hours Each Semester

Prerequisite or corequisite for 26-203: 26-253.

Prerequisites for 26-204: 26-203 and 26-253.

Prerequisite or corequisite for 26-204: 26-254.

This course presents physics in a manner suitable for students who do not have a strong mathematical background. The course is designed primarily to help the non-scientist act in an informed way in today's technically oriented society. Topics covered in the two-semester course clude mathematics, thermodynamics, electromagnetism, optics, and odern physics.

Lecture: three hours.

-205 and 26-206. *Physics for Biology and Premedicine* *Three Credit Hours* Each Semester

Prerequisites for 26-205: 30-105 and 30-106 or 30-106 and 30-107.

Prerequisite or corequisite for 26-205: 26-255.

Prerequisites for 26-206: 26-205 and 26-255.

Prerequisite or corequisite for 26-206: 26-256.

Required of all premedical, biological, and science students who do not ke 26-210, 26-211, and 26-212.

A course designed to stress the principles and unifying concepts of assical and modern physics with emphasis directed toward biological pplications. General topic headings covered in this course include inetics and dynamics, heat, wave motion, electricity and magnetism, ptics, and nuclear physics.

Premedical, predental, and preveterinary students, as well as biological ience majors, will find this course particularly useful in preparing for reers.

Lecture: three hours.

6-210, 26-211, and 26-212. *Physics for Engineers and Physical Scientists* Three Credit Hours Each Semester

Prerequisite for 26-210: 30-131 (Analytic Geometry and Calculus I). May be taken concurrently with 30-131 with permission of the heads of he student's major department and the Department of Physics.)

Prerequisite or corequisite for 26-210: 26-260.

Prerequisites for 26-211: 26-210 and 26-260.

Prerequisite or corequisite for 26-211: 26-261.

Prerequisites for 26-212: 26-211 and 26-261.

Prerequisite or corequisite for 26-212: 26-262.

Calculus-based introductory physics sequence.

Kinematics, dynamics, electricity and magnetism, wave motion and ound, fluid statics and dynamics, thermodynamics, optics, and modern hysics covered with no assumption of prior knowledge of physics.

Lecture: three hours.

26-210 formerly numbered 26-110.

6-251. *Astronomy Laboratory* One Credit Hour

Prerequisite or corequisite: 26-201 or permission of instructor.

This course provides an introduction to the basic laboratory methods in astronomy, including telescopic observation and photographic tec niques.

Formerly numbered 26-217.

Laboratory: two hours.

26-252. *Astronomy Navigation Laboratory* One Credit Ho

Prerequisite or corequisite: 26-202 or permission of instructor.

Comprises an introduction to techniques in practical astronom especially positional astronomy and celestial navigation techniques.

Formerly numbered 26-218.

Laboratory: two hours.

26-253 and 26-254. *Physics Laboratory for Liberal Arts Majors* One Credit Hou
Each Semeste

Prerequisite or corequisite for 26-253: 26-203.

Prerequisite or corequisite for 26-254: 26-204.

These laboratories are designed to correlate with the lecture material i 26-203 and 26-204, respectively. The experiments are designed to illustrat and emphasize the physical phenomena discussed in the correspondin lecture courses.

Laboratory: two hours.

26-255 and 26-256. *Physics Laboratory for Biology and Premedicine* One Credit Hou
Each Semeste

Prerequisite or corequisite for 26-255: 26-205.

Prerequisite or corequisite for 26-256: 26-206.

Required of all biological science and premedicine students.

It is intended that the experiments in these laboratories follow the lecture material in 26-205 and 26-206, respectively. Laboratory technique and report writing will be emphasized. The experiments are arranged to correlate with the physical principles discussed in the corresponding lecture courses.

Laboratory: two hours.

26-260, 26-261, and 26-262. *Physics Laboratory for Engineers and Physical Scientists* One Credit Hour
Each Semester

Prerequisite or corequisite for 26-260: 26-210.

Prerequisite or corequisite for 26-261: 26-211.

Prerequisite or corequisite for 26-262: 26-212.

Required of all students majoring in chemistry, engineering, mathematics, and physics.

The laboratories parallel and supplement the lecture material in 26-210,

-211, and 26-212, respectively. Experiments utilize much modern uipment including microwave apparatus, oscilloscopes, spectrometers, :. All areas of basic physics are covered, including measurement, statics, ear and rotational dynamics, wave phenomena, sound, light, thermonamics, electricity, and magnetism. Emphasis is placed on proper perimental technique, error analysis, and technical report writing.

Laboratory: two hours.

-301. *Biological Physics* Three Credit Hours

Prerequisites: 26-206 and 26-256, or 26-212 and 26-262; 30-107 or 30-2; and 40-102 or 40-106.

The applications of physics to the processes occurring in living systems. mong the topics to be discussed will be bioenergetics, radiation, ophysics, sensory biophysics, and bioelectricity. Attention also will be ven to biomedical instrumentation.

Lecture: three hours.

-307. *Electronic Instrumentation* Three Credit Hours

Prerequisites: 26-206 and 26-256, or 26-212 and 26-262; 30-107 or 30-1.

Corequisite: 26-357.

Required of all physics juniors; open to other science majors. Not tended for electrical engineering majors.

Brief review of DC and AC circuits. Introductions to theory and oplications of solid-state diodes, transistors and other semiconductors, nplifiers, waveform generators, operational amplifiers, transducers, and gital electronics.

Lecture: three hours.

Formerly numbered 26-220.

5-308. *Optics* Three Credit Hours

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics juniors, open to others.

Principles of geometrical and physical optics presented with attention o engineering applications. Topics covered include geometrical imaging, -b ray analysis, fiber optics, interferometry, thin film optical filters, and olarization. Matrix methods are applied to lens systems, thin films, and olarization.

Lecture: three hours.

Formerly numbered 26-305.

26-313. *Modern Physics* Three Credit Ho

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics juniors; open to others with the permission the instructor.

The fundamental experiments and their interpretation that led to t development of relativity and quantum mechanics from classical physi Emphasis is placed on the so-called "semi-classical" period in physi 1900-1925.

Lecture: three hours.

26-315 and 26-316. *Analytical Mechanics* Three Credit Hou
Each Semest

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics juniors; open to others.

Statics and dynamics of rigid bodies, Lagrangian and Hamiltonia dynamics, collision kinematics, central-force motion, oscillating system introduction to relativity.

Lecture: three hours.

26-320. *Mathematics Physics* Three Credit Hour

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics juniors.

Emphasis on mathematical methods of theoretical physics. Topics ma include coordinate transformations, vector calculus techniques, specia functions, definite integrals, approximations, numerical methods of data reduction, eigenvalue problems, boundary-value problems, representatio theory, perturbation theory.

Lecture: three hours.

26-357. *Electronic Instrumentation Laboratory* One Credit Hour

Corequisite or prerequisite: 26-307.

Required of all physics majors. Open to others only with the permission of the instructor.

Laboratory parallels and supplements lecture material in 26-307.

Laboratory: two hours.

26-358. *Optics Laboratory* One Credit Hour

Corequisite or prerequisite: 26-308.

Required of all physics majors. Open to others only with the permission of the instructor.

Laboratory: two hours.

Formerly numbered 26-303 and 26-307.

26-403 and 26-404. *Electricity and Magnetism* Three Credit Hours Each Semester

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics seniors, open to others.

The electrostatic field and its effect on matter, the properties of magnetic fields and magnetic materials, electromagnetic effects, vector potentials, displacement currents, Maxwell's equations, Lorentz force on particles, periodic currents.

Lecture: three hours.

These courses formerly were numbered 26-311 and 26-312.

26-405 and 26-406. *Quantum Mechanics* Three Credit Hours Each Semester

Prerequisites: 26-308, 26-313, 26-316, and 26-320.

Required of all physics seniors, open to others.

An introductory course in quantum mechanics with emphasis on both physical principles and mathematical techniques. Stress is placed on understanding how quantum mechanics is used in explaining the behavior of physical systems.

Lecture: three hours.

26-409. *Intermediate Optics* Three Credit Hours

Prerequisite: 26-308.

Corequisite or prerequisite: 26-308 and 30-335.

This course is a continuation of Optics 26-308. It develops the Fourier analysis approach to physical optics. Topics covered include the optical transfer function, the wave theory of aberrations, spatial filtering, holography and applications, fiber optics, and nonlinear optics.

Lecture: three hours.

Formerly numbered 26-306.

26-410. *Thermodynamics* Three Credit Hours

Prerequisites: 26-212 and 26-262; 30-231.

Required of all physics seniors; open to others.

Principles of thermodynamics presented with attention to engineering applications. First and Second Laws of Thermodynamics, especially as applied to closed hydrostatic systems and open steady-flow systems. Concepts of internal energy, heat flow, enthalpy and entropy. Perfect gas processes. Carnot cycle for heat engines, heat pumps, refrigerators. Power output; mass flow equations; quality factor for mixed systems.

Lecture: three hours.

Formerly numbered 26-310.

26-412. *Stellar and Galactic Astrophysics* Three Credit Hours

Prerequisites: 26-211, or 26-204 and 30-234.

The structures, atmospheres, dynamics, and evolutions of stars. The techniques of stellar abundance analysis and spectral classification. The reduction, eigenvalue problems, boundary-value problems, representation theory, perturbation theory.

Lecture: three hours.

26-415. *Special Topics in Physics* Three Credit Hours

Prerequisite: 26-212 and 26-262 or permission of instructor.

Topics may vary by semester according to student interest and availability of instructor. The subject for a semester will be chosen from such topics as space physics, special relativity, and solid state physics.

Lecture: three hours.

Formerly numbered 26-407.

26-416. *Advanced Topics in Physics* Three Credit Hours

Prerequisites: 26-212 and 26-262 and permission of instructor.

Similar to 26-415. The subject for a semester will be chosen from such advanced topics as group theory in quantum mechanics, magnetic resonance, and plasma physics.

Lecture: three hours.

Formerly numbered 26-408.

26-419. *Research Planning* One Credit Hour

Required of all physics seniors.

An outstanding recent development is chosen by one or more students and studied intensively.

Laboratory; two hours.

26-420. *Senior Research Project* Three Credit Hours

Prerequisite: 26-419.

Required of all physics seniors.

The work started in 26-419 (Research Planning) is applied in the laboratory, or if theoretical, to a better understanding of natural phenomena.

Lecture: One hour

Laboratory: Four hours.

26-451. *Advanced Laboratory Physics* One Credit Hour

Required of all physics seniors.

Formerly numbered 26-417 and 26-403.

Laboratory: two hours.

Department of Political Science

Department Head: Boykin
The John C. West Professor of Government: Twinam
Professors: Boykin, Arcilesi, Baker, Benson, Davis, Steed, Moreland
Associate Professor: Hudson

The Department of Political Science offers a flexible major which permits each student to concentrate his study in the area of his interest while at the same time affording him an opportunity to obtain a broad liberal arts education that will enrich his life, acquaint him with the rights and responsibilities of citizenship, and prepare him for a satisfying career.

The course of study for students majoring in Political Science prescribes a set of core courses to introduce the student to the discipline. In addition, during the junior and senior years each major selects one of the following departmental subfields for specialization:

A. American Government and Politics.

B. International Politics and Military Affairs.

C. Law and Criminal Justice.

Additional information on the discipline of Political Science, the course of study, and the department's offerings in Sociology and Anthropology may be found in the paragraphs which follow.

The discipline of Political Science seeks to describe and explain political phenomena, including political institutions, the political process, political behavior, and contemporary political issues. The student is afforded an opportunity to obtain a broad knowledge of both foreign and domestic political systems. In addition, Political Science also studies the relationships of people with their governments, including the rights and responsibilities of citizens.

The Political Science program at The Citadel provides for its majors a broad understanding of political phenomena, enhanced by opportunities for study in the related disciplines of Economics, History, Sociology an Anthropology. The major is a flexible one, and it offers a variety o opportunities for its students. As the central element of a genera education, Political Science provides preparation both for graduat education and for useful and satisfying careers. The majority of student interested in pre-law and in law enforcement in general choose Politica Science as their major subject area. The major has especially stron appeal for those who anticipate careers in government, particularly in the Foreign Service, in public administration, in the military generally, and in both civilian and military intelligence agencies. The major also prepares students for graduate work in the social sciences. The Political Science curriculum is thus designed to be responsive to a variety of interests; however, a large proportion of the department's majors are interested in pre-law or law enforcement or are preparing for military service.

The Department of Political Science is also pleased to offer courses in both Sociology and Anthropology; some of these are incorporated in the Law and Criminal Justice subfield of the Political Science curriculum. In addition, these courses in Sociology and Anthropology supplement and enhance other disciplines such as Psychology, Education, History, and Business Administration.

Major Requirements

The Political Science major consists of fifteen courses (45 credit hours) within the department. In addition, the major establishes certain distributional requirements outside the department, and it provides for seven general (or free) elective courses which the student may use as he chooses. The complete course of study is presented in the Courses of Study section of this catalogue.

The fifteen courses required for a major in Political Science are distributed as follows; six core courses, five subfield courses, and four Political Science electives.

First, each student is required to complete a specified core of seven courses which are scheduled throughout the four years of the major:

60-101	Introduction to Political Science	(fall, fr. yr.)
60-102	American National Government	(spring, fr. yr.)
60-231	International Politics	(fall, soph. yr.)
60-232	Comparative Politics	(spring, soph. yr.)
60-392	Political Theory	(spring, jr. yr.)
60-462	Constitutional Law: Civil Rights and Liberties	(fall, sr. yr.)

Second, no later than the beginning of the fall semester of the junior year, each major must select one of the department's subfields for course concentration during the junior and senior years. The three subfields are Subfield A: American Government and Politics, Subfield B: International Politics and Military Affairs, and Subfield C: Law and Criminal Justice. Each major must complete five courses within one subfield of his choice. Three of these courses are specifically required; the remaining two courses must be selected from the list of subfield electives as indicated below.

Third, to complete the required fifteen courses for major, each student must also complete three additional Political Science courses (60-), two of which must be chosen from the American Government and Politics subfield. The third must be either the Senior Research Project or an additional Political Science elective.

All courses within a subfield are open both to majors in other departments and to Political Science majors who are concentrating in one of the other two subfields.

Subfield requirements and electives are listed below.

Subfield A: American Government and Politics

JUNIOR YEAR

First Semester	**Second Semester**
American Parties & Politics, 60-301	Urban Politics, 60-302
Economics, 05-201	Economics, 05-202
American Politics Elective	Political Theory, 60-392
General Elective	General Elective
General Elective	General Elective
ROTC	ROTC

SENIOR YEAR

First Semester	**Second Semester**
Pol. Issues & Public Policy, 60-401	American Pol. Elective
American Politics Elective	American Politics Elective
Constitutional Law, 60-462	Political Science Elective
General Elective	General Elective
General Elective	Senior Research Project, 60-498, or Departmental Elective, 60-
ROTC	ROTC

Required:

60-301	American Parties and Politics
60-302	Urban Politics
60-401	Political Issues and Public Policy

Subfield Electives (those selecting this subfield must complete at least four electives chosen from the following):

60-303	State and Local Government
60-304	American Political Thought
60-305	American Presidency
60-306	Legislative Process
60-307	Southern Politics
60-308	Public Opinion
60-396	Politics and the Media
60-402	Public Administration
60-403	Topics in American Government and Politics
60-499	Internship

Subfield B: International Politics and Military Affairs

JUNIOR YEAR

First Semester	**Second Semester**
International Law, 60-331	Nat. Security Pol., 60-332
Economics, 05-201	Economics, 05-202
American Politics Elective	Political Theory, 60-392
General Elective	General Elective
General Elective	General Elective
ROTC	ROTC

SENIOR YEAR

First Semester	**Second Semester**
Am. Foreign Relations, 60-431	Int. Politics Elective
American Politics Elective	Int. Pol. Area Elective
Constitutional Law, 60-462	Political Science Elective
General Elective	General Elective
General Elective	Senior Research Project, 60-498, or Departmental Elective, 60-
ROTC	ROTC

Required:

60-331	International Law
60-332	National Security Policy
60-431	American Foreign Policy

Subfield Electives (those selecting this subfield must complete at least two electives chosen from any of the American Government and Politics courses listed above plus two subfield electives chosen from the following, one of which must be an area course):

60-333	International Organization
60-334	Problems in International Law & Organization
60-335	Comparative Foreign and Defense Policies
60-336	Russian Affairs
60-337	Far Eastern Affairs
60-338	Southeast Asian Affairs
60-339	Middle Eastern Affairs
60-340	Latin American Affairs
60-341	African Politics
60-342	Political Ideology and Violence
60-402	Political Science Education
60-443	Topics in International Politics
60-499	Internship

Subfield C: Law and Criminal Justice

JUNIOR YEAR

First Semester	**Second Semester**
Law & Legal Process, 60-361	Crim. J. Proc., 60-362
Economics, 05-201	Economics, 05-202
American Politics Elective	Political Theory, 60-392
General Elective	General Elective
General Elective	General Elective
ROTC	ROTC

SENIOR YEAR

First Semester	**Second Semester**
Constitutional Law, 60-462	Constitutional Law, 60-461
Law & Crim. Justice Elective	Law & Crim. J. Elective
American Politics Elective	Political Science Elective
General Elective	General Elective
General Elective	Senior Research Project,

ROTC

60-498, or Departmental
Elective, 60-
ROTC

Required:

60-361 Law and Legal Process
60-362 Criminal Justice Process
60-461 Constitutional Law: Powers of Government

Subfield Electives (those selecting this subfield must complete at least two electives chosen from any of the American Government and Politics courses listed above plus two subfield electives chosen from the following):

60-304 American Political Thought
60-331 International Law
60-402 Public Administration
60-463 Topics in Law and Criminal Justice
60-499 Internship
61-201 Introduction to Sociology
61-302 Criminology

Electives not designated by subfield: majors who take one (or more) of the following courses must take that course as a departmental elective or as a general elective:

60-393 Contemporary Political Analysis
60-394 Scope and Methods in Political Science
60-492 Topics in Political Philosophy and Theory
60-498 Senior Research Project

60-101. *Introduction to Political Science* Three Credit Hours

Required of political science freshmen.

An introduction to politics in general and the discipline of Political Science in particular. Attention will be given to the basic questions and methods of Political Science with introductions to the subfields of the discipline.

60-102. *American National Government* Three Credit Hours

Formerly 60-101. Required of political science freshmen. Open to others.

A study of the American constitution background, the rights and liberties of persons, public opinion, voting behavior, political parties, interest groups, and the organization and roles of the Presidency, the Congress, and the national Judiciary in policy formation and implementation.

0-231. *International Politics* Three Credit Hours

Formerly 60-405. Required of political science sophomores. Open to hers.

An analysis of the international system, of the nation-state, the role of ower in international politics, and the goals and instruments of a ation's foreign policy.

0-232. *Comparative Politics* Three Credit Hours

Formerly 60-204. Required of political science sophomores. Open to thers.

An analysis of the various political systems in terms of institutions, ructure, and function. Emphasis on the development of common criteria r the evaluation and comparison of these divergent systems.

0-301. *American Parties and Politics* Three Credit Hours

Formerly 60-304.

An analysis of the dynamics of American politics, with particular nphasis upon the factors entering into the formulation of public pinion, the role of interest groups, and the nature and operation of the arty system.

0-302. *Urban Politics* Three Credit Hours

Formerly 60-413.

A study of mass participation in urban political affairs, political parties n the local level, the municipal reform movement, and the alternative pproaches to the study of local political systems. Emphasis placed on the roblems of local governments in metropolitan areas.

0-303. *State and Local Government* Three Credit Hours

Formerly 60-210.

A study of the role of the states in the American constitutional system, ne institutional organization of state governments and the relationships oth between the states and the national government and among the arious levels of state government.

0-304. *American Political Thought* Three Credit Hours

Formerly 60-309.

A study of the basic political ideas which have developed in response o American constitutional, social, and economic conditions.

0-305. *American Presidency* Three Credit Hours

Formerly 60-310.

A study of the modern Presidency with attention to its origin and its istorical and constitutional development. Emphasis placed on the examination of the various roles and functions of the President and on a analysis of Presidents in action.

60-306. *Legislative Process* Three Credit Hour

Formerly 60-311.

A study of the organizations and procedures of a legislative body wit attention on its role in policy formation and its relationships with othe parts of a political and governmental system.

60-307. *Southern Politics* Three Credit Hour

Formerly 60-314.

A study of politics in the South in both regional and national contexts Attention given to the politics of individual states and to an analysis o regional developments in such areas as race relations, political behavior and party competition.

60-308. *Public Opinion and Political Behavior* Three Credit Hour

Formerly 60-422.

A systematic analysis of political attitudes and behavior in relation t techniques of opinion survey design and analysis, voting behavior, an mechanisms for influencing options.

60-331. *International Law* Three Credit Hour

Formerly 60-301.

A survey of international law as developed through treaties, customs usages, and decisions of national and international tribunals.

60-332. *National Security Policy* Three Credit Hour

Formerly 60-313.

An examination of the components of United States Security policy Consideration given to factors, both internal and external, affectin national security.

60-333. *International Organization* Three Credit Hour

Formerly 60-302.

A survey of the development and functions of international organizations, including the League of Nations, the United Nations, and othe international agencies seeking to promote harmony among nations.

60-334. *Problems in International Law and Organization* Three Credit Hour

Formerly 60-308. Prerequisite: 60-331 (International Law) or permission of course instructor.

An advanced survey of the elements of the application of the basi principles of international law with additional attention given to selecte roblems of international organization. Emphasis given to an in-depth tudy of jurisdiction over aliens, state liability for official acts, interational reclamations, the regulation of hostilities, treaties, war, and iplomacy.

0-335. *Comparative Foreign and Defense Policies* Three Credit Hours

Formerly 60-321.

A comparison and analysis of the foreign and defense policies of the oviet Union, China, Britain, France, and selected Third World states, ncluding an introduction to the defense strategies of the state and the elationship between foreign and defense policy in today's world.

0-336. *Russian Affairs* Three Credit Hours

Formerly 60-415.

An analysis of the geographic, demographic, economic, political, sychological, and military bases of Soviet power with emphasis on the bjective techniques and operations of Soviet foreign policy.

0-337. *Far Eastern Affairs* Three Credit Hours

Formerly 60-409.

A survey of China from 1911 to the present, with emphasis on the rise of communism in China, on the structure and operation of the Chinese People's Republic, and on contemporary Chinese foreign policy.

60-338. *Southeast Asian Affairs* Three Credit Hours

Formerly 60-410.

A study of the development of selected countries in the area with emphasis on the problems of transition, ideological orientations, roles in the Soviet-American competition, and the importance of the area to the national interests and foreign policy of the United States.

60-339. *Middle Eastern Affairs* Three Credit Hours

Formerly 60-418.

A survey of the Middle East with emphasis on the role of the area in the foreign policy of the United States.

60-340. *Latin American Affairs* Three Credit Hours

Formerly 60-414.

A study of Latin America with emphasis on the traditional power elements and on the importance of the area to the foreign policy of the United States.

60-341. *African Politics* Three Credit Hou

Formerly 60-417.

An analysis of the politics and modernization of Africa with emphas on the newly independent states of the continent with their politica cultural, demographic, and historical characteristics and on tribal facto influencing the process of modernization.

60-342. *Political Ideology and Violence* Three Credit Hou

Formerly 60-424.

A study of selected contemporary ideologies and political violenc focusing on radical ideologies, revolutionary movements, and tran national violence, and other factors which have important politic consequences both domestically and internationally.

60-361. *Law and Legal Process* Three Credit Hour

Formerly 60-315.

A general survey of the American legal process (except for the crimina justice process) with emphasis on the nature and function of law, th organization of legal institutions (primarily the state and federal ju diciaries), an introduction to civil law and the civil justice process, th roles of judges and lawyers, the judicial decision-making process, and th impact of court decisions.

60-362. *Criminal Justice Process* Three Credit Hour

Formerly 60-316.

An introduction to the American criminal justice system, including th history and philosophy of law enforcement, the nature of crime in th United States, an introduction to the substantive criminal law, the natur and theory of the criminal justice process from arrest to corrections, an the roles of the major actors in that process (police, prosecutors, defens lawyers, judges, and corrections personnel).

60-392. *Political Theory* Three Credit Hour

Formerly 60-407; replaces both 60-407 and 60-408.

Required of political science juniors. Open to others.

Major theoretical writing from the ancient Greeks to the present day emphasis on a comparison of ideas and on the relationships betwee theories and contemporary problems.

60-393. *Scope and Methods in Political Science* Three Credit Hour

Formerly 60-319. Cannot be used as a subfield elective.

An examination of methods in the scientific study of politica henomena with emphasis given to the systematic study of politics and ontemporary research problems in political science, including research esign, data collection, data analysis, and computer applications.

0-394. *Contemporary Political Analysis* Three Credit Hours

Formerly 60-320. Cannot be used as a subfield elective.

An introduction to some of the more important approaches to ontemporary political science. Emphasizes the importance of concept ormation in developing general strategies for the study of political henomena. Some of the approaches studied include group theory, olitics as process, the power approach, systems theory, structural-unctional analysis, communications theory, game theory, and the inividualistic-psychological approaches.

0-396. *Politics in the Media* Three Credit Hours

Formerly 60-423. Cannot be used as a subfield elective.

An examination of theories of communication, of the relationships between the various types of media and the political world, of the impacts of media on political decision-making, and of political themes found in films, television, literature, and other media forms. Specific topics include the nature and impact of television journalism, the context and political themes of selected films and novels, and the political roles performed by electronic and other forms of media.

60-401. *Political Issues and Public Policy* Three Credit Hours

An introduction to political analysis through consideration of important contemporary American political issues as they relate to public policy; attention given to specific issues as well as the policy process (formulation, implementation, and evaluation of policy).

60-402. *Public Administration* Three Credit Hours

Formerly 60-305.

An introduction to the role of administration in the governmental process with emphasis on the principles of administrative control, personnel, and fiscal management.

60-403. *Topics in American Government and Politics* Three Credit Hours

Prerequisite: 60-102 (American National Government) or permission of course instructor.

Course description: Selected special topics or problems in the general area of American government and politics; offered periodically as the special interests of faculty and students permit.

60-431. *American Foreign Relations* Three Credit Hou

Formerly 60-203.

A study of American foreign policy with emphasis on the institution and processes in the making of foreign policy and on important problem and developments in the postwar years.

60-433. *Topics in International Politics and Military Affairs* Three Credit Hou

Formerly 60-406. Prerequisite: 60-231 (International Politics) or permission of course instructor.

Selected special topics or problems in the general areas of internationa politics and military affairs; offered periodically as the special interests of faculty and students permit.

60-461. *Constitutional Law: Powers of Government* Three Credit Hour

Formerly 60-401.

A study of the underlying and basic principles of the Constitution a reflected in the leading decision of the United States Supreme Court with special attention directed to judicial review as it has shaped the powers o Congress, the Presidency, and the federal Judiciary itself.

60-462. *Constitutional Law: Civil Rights and Liberties* Three Credit Hour

Formerly 60-402. Required of political science seniors. Open to others.

A study of the underlying and basic principles of the Constitution a reflected in the leading decisions of the United States Supreme Cour with special attention directed to the Bill of Rights and the Thirteenth Fourteenth, and Fifteenth Amendments.

60-463. *Topics in Law and Criminal Justice* Three Credit Hours

Prerequisite: 60-361 (Law and Legal Process) or permission of course instructor.

Selected special topics or problems in the general areas of public law and legal process; offered periodically as the special interests of faculty and students permit.

60-492. *Topics in Political Philosophy and Theory* Three Credit Hours

Prerequisite: Political Theory, 60-392, or permission of the course instructor. Cannot be used as a subfield elective.

Selected special topics in the general area of political philosophy and theory; offered periodically as the interests of faculty and students permit.

0-498. *Senior Research Project* Three Credit Hours

Formerly 60-420. Required of all seniors as a prerequisite to gradua- ion; an approved departmental elective may be substituted.

An independent research project resulting in a formal paper, The roject must be approved by the department head in consultation with an ppropriate member of the faculty who will supervise the project; irtually any aspect of politics may be investigated. Especially recom- nended for those considering graduate or professional study.

0-499. *Internship* Three Credit Hours

Prerequisite: permission of department head.

Internships with government and other agencies may be periodically offered to combine academic training with professional experience. These may be offered in each of the three subfields and will count as a subfield elective.

Sociology

61-201. *Introduction to Sociology* Three Credit Hours

The scientific study of principles and comparisons in society and culture as these relate to population and communities, behavior systems, group collectivity and structure, social change, and institutions.

61-202. *Social Problems* Three Credit Hours

Analysis of deviant behavior and those factors affecting the disorganization of small groups, complex organizations, and societies.

61-302. *Criminology* Three Credit Hours

A study of crime, its causes, conditions, prevention, and treatment; a presentation of theories and hypotheses, supported by concrete facts, designed to assure the student that the theories proposed are based upon realities and exact observation.

61-304. *Minority Group Relations* Three Credit Hours

An examination of the substantive issues in the study of majority-minority group relations and social processes, and the cultural orientations which are associated with these issues.

61-305. *Small Groups* Three Credit Hours

Open to juniors and seniors only.

A review of group theory and research. Primary attention centers upon the development and operation of group structure and the internal workings of small groups within a sociological context. Task groups established to accomplish some specific goal are also examined along wit those factors which make for group productivity.

61-306. *Population* Three Credit Hou

Size, growth, distribution, social and economic composition, an changes of the United States population; special topics include housin religious affiliation, and political demography.

Anthropology

62-201. *General Anthropology* Three Credit Hour

Man's biological and cultural origins as studied by physical anthropologists, archaeologists, and linguists.

62-202. *Cultural Anthropology* Three Credit Hour

A comparative study of culture; habitat, technology, and economy kinship and political organization; life cycles in primitive societies.

62-303. *Physical Anthropology* Three Credit Hour

Open to juniors and seniors only.

An introduction to physical or bioanthropology. The course examine the process of human development along with a review of the basi principles of physical and behavioral evolution based on the fossil recor and the changing ecological, cultural, and social contacts.

62-305. *Native North Americans* Three Credit Hour

Open to juniors and seniors only.

A study of the society and culture of the North American Indian environment; cultural adaptations; economic, political, and social organization and their influence upon the daily lives of people over the North American continent.

62-307. *Man's Prehistoric Past* Three Credit Hours

Open to juniors and seniors only.

An introduction to archaeology which looks at kinds of prehistoric data and the methods used to obtain and interpret it. Attention will center upon the lives of hunters, food producers, and early community settlements.

Department of Psychology

Department Head: Bowman
Professors: Bowman, Doran, Mahan
Associate Professor: Pietrangeli

The program in psychology emphasizes the contribution that psychology can make to a liberal education through stimulating intellectual development, personal growth and adjustment, respect for others, and a feeling of social responsibility. The curriculum in psychology is designed to familiarize the student with current experimental methods and theories in such fundamental areas of investigation as emotion, learning, memory, motivation, perception, personality, psychological testing, psychopathology, research design, and social interaction. By taking the required courses with various electives, the student will have an experimentally secure foundation for graduate work as well as the psychological skills essential for employment in certain types of jobs. Majors in psychology may find openings in personnel work, mental hospitals, schools for the handicapped, law enforcement, and many other positions of a similar nature. The department offers elective courses and supportive services to majors in other academic disciplines and, in cooperation with the Department of Education, has two graduate degree programs in the field of School Psychology.

A student majoring in psychology may expect to develop rigorous habits of observation with reference to psychological phenomena, to become aware of the need for statistical orientation in the consideration of psychological data, and to recognize the role of multiple causation in the determination of human behavior.

The major program in psychology, which leads to the Bachelor of Arts degree, consists of 39 hours of course work in psychology, including 51-201, 51-202, 51-203, 51-301, 51-302, 51-304, 51-305, 51-306, 51-403, 51-404, 51-405, 51-407, and 51-410. Those majors who elect chemistry or physics in the sophomore year may be required to enroll in 47-104 as one of their approved electives.

The Department of Psychology sponsors the Psychology Club, which serves to encourage, stimulate, and maintain interest and scholarship of the individual members in the varied facets of psychology and to promote closer social and intellectual association of psychology majors.

51-201. *General Psychology* Three Credit Hours

Elective for sophomores, juniors, and seniors.

An introduction to the scientific study of behavior; emphasis upon experimental investigation of such fields as perception, motivation, learning, emotions, physiology, and personality.

51-202. *Developmental Psychology* Three Credit Hours

A study of the development of the individual from prenatal to senescent stages, emphasizing growth in intelligence, motor behavior, perception, cognition, socialization, and emotion. Empirical findings and theoretical interpretations in the study of human behavior will be explored.

51-203. *Research Design in Psychology* Three Credit Hours

Prerequisite: 51-201.

An introduction to descriptive and inferential statistics used in psychological experimentation. Particular emphasis is placed upon hypothesis testing by means of the t-test and randomized designs of the analysis of variance.

51-301. *Experimental Psychology I* Three Credit Hours

Prerequisites: 51-201 and 51-203.

Comprehensive treatment of research findings in experimental psychology in such areas as sensation and perception. Emphasizes the essential importance of rigorous hypothesis formulation and the design of experiments to test hypotheses.

51-302. *Experimental Psychology II* Three Credit Hours

Prerequisites: 51-201, 51-203; and 51-301.

A continuation of Experimental Psychology I.

51-304. *Abnormal Psychology* Three Credit Hours

Prerequisite: 51-201.

A study of fundamental theory and research in the area of abnormal behavior. Emphasis is on symptoms, etiology, and treatment of psychopathology and behavior problems.

51-305. *Social Psychology* Three Credit Hours

A study of the individual in relation to his social environment with special attention to group behavior, communication, conformity, leadership, aggression, and interpersonal attraction. May be considered a social science course.

51-306. *Theories of Personality* Three Credit Hours

A study of major contemporary theories of personality with special emphasis on the biological and psychological foundations and integrative aspects of personality.

51-309. *Psychology of Individual Behavior* Three Credit Hours

Not open to psychology majors.

A study of the human person, his development, his relation to social roles, and life crises. The emphasis will alternate between an analysis of available research and self-study in terms of values, patterns of behavior, and goals.

51-403. *Psychology of Learning and Motivation* Three Credit Hours

Prerequisite: 51-201.

A comprehensive and critical review of the experimental literature in the area of learning and motivation, including the major learning theories and the motivational determinants of behavior.

51-404. *Applied Psychology* Three Credit Hours

Prerequisite: 51-201.

Application of psychological principles to the world of work. Specific topics include concepts of work, job satisfaction, personnel selection, performance appraisal, human engineering, leadership, and organizational behavior.

51-405. *History and Systems of Psychology* Three Credit Hours

Prerequisite: 51-201.

Historical survey of psychology, emphasizing contributions of major "schools" of psychology, theories, their place in science, and current theoretical trends.

51-407. *Psychological Testing* Three Credit Hours

Prerequisite: 51-201.

A survey of the theory and principles of psychological testing, demonstration and discussion of representative tests of intelligence, aptitude, achievement, interests, and personality.

51-410. *Seminar in Contemporary Psychological Issues* Three Credit Hours

Required of all senior psychology majors; open to others with the permission of the instructor.

A study of selected critical issues in contemporary psychology, encompassing the various aspects of the discipline. Special emphasis will be given to integrating concepts, principles, and skills learned from earlier courses and related disciplines. Content in any semester to be determined by student needs.

51-418. *Internship in Psychology* Three Credit Hours

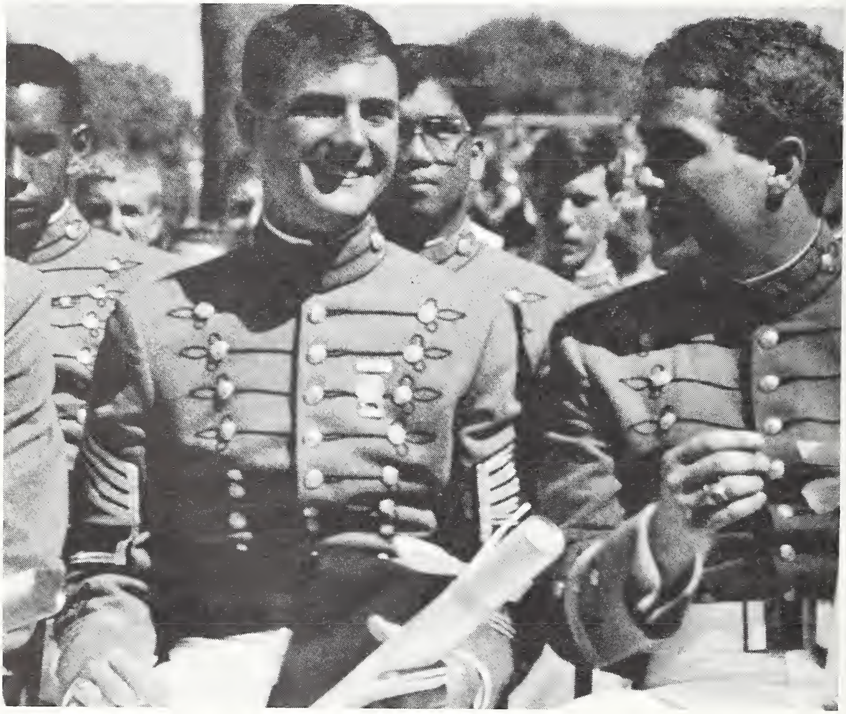
Prerequisite: Permission of Department Head.

Internships providing student observation and participation in a psychologically oriented activity may be periodically offered to combine academic training with professional experience. Students will be expected to relate internship experiences to the psychological literature. Intended only for psychology majors.

51-420. *Senior Research Project* Three Credit Hours

Prerequisite: approval of department head.

An independent research project culminating in a formal paper. Recommended for students planning graduate study. Approval for enrollment based on capability of applicant and the acceptance of a written proposal.



Organization

Board of Visitors

Colonel William R. Risher, Chairman, '47, (1989) ....
Charleston, S.C. 29412 (918 Paul Revere Court)

Colonel John M. J. Holliday, Chairman Emeritus, '36 ....
Galivants Ferry, S.C. 29544

Colonel Leonard Fulghum, Vice Chairman, '51 (1990) ....
Charleston, S.C. 29403 (P.O. Box 2608)

Colonel Thomas C. Vandiver, Vice Chairman Emeritus, '29 ....
Greenville, S.C. 29602 (P.O. Box 1329)

Colonel William F. Prioleau, Jr., '43 (1988) ....
Columbia, S.C. 29201 (Suite 700 Barringer Building)

Colonel Charles L. Terry, Jr., '43 (1990) ....
Columbia, S.C. 29260 (P.O. Box 6198)

Colonel George C. James, '49 (1992) ....
Sumter, S.C. 29150 (P.O. Box 1716)

Colonel Lucas C. Padgett, '38 (1988) ....
Walterboro, S.C. 29488 (P.O. Box 1212)

Colonel William H. O'Dell, '60 (1993) ....
Ware Shoals, S.C. 29692 (P.O. Box 540)

Colonel J. Stannard Hurteau, '65 (1989) ....
Charleston, S.C. 29402 (P.O. Box 935)

Colonel Alonzo W. Nesmith, Jr., '79 (1989) ....
Charleston, S.C. 29407 (78 Ashley Hall Plantation Road)

Colonel James M. Leland, Jr., '52 (1991) ....
Columbia, S.C. 29223 (P.O. Box 752)

Colonel David S. Boyd, '62 (1993) ....
Greenville, S.C. 29604 (P.O. Box 8838)

Ex-Officio

The Honorable Carroll A. Campbell, Jr., Governor ...... Columbia, S.C.
Major General T. Eston Marchant, Adjutant General .... Columbia, S.C.
The Honorable Charlie G. Williams, State Superintendent of Education .... Columbia, S.C.

The Honorable Thomas L. Moore, General Committee, State Senate ..... Columbia, S.C.

The Honorable Frank E. McBride, Medical, Military, Public, and Municipal Affairs Committee, State Senate .... Sumter, S.C.

Colonel James R. Woods, USA, Ret., Secretary .... Charleston, S.C. 29403 (201 Fifth Ave.)

Advisory Committee to the Board of Visitors

General Lymnan L. Lemnitzer, United States Army, Retired, Chairman

General Robert H. Barrow, United States Marine Corps, Retired, Former Commandant, United States Marine Corps

Mr. Frank Blair, Former Newscaster of NBC-TV "Today" Show

General Leonard F. Chapman, Jr., United States Marine Corps, Retired, Former Commandant, United States Marine Corps

Major General Guy L. Hecker, United States Air Force, Retired, Class of 1954, President, Stafford, Burke & Hecker, Inc., and Potomac Space Associates

Mr. Francis M. Hipp, Chairman of the Board, The Liberty Corporation

Admiral Robert L. J. Long, United States Navy, Retired, Former Commander in Chief, United States Forces Pacific

Admiral Thomas H. Moorer, United States Navy, Retired, Former Chairman of the Joint Chiefs of Staff

Dr. John M. Palms, Class of 1958, Vice President for Academic Affairs and Professor of Physics, Emory University

Major General W. Thomas Rice, United States Army Reserve, Retired, Chairman Emeritus, Seaboard Coast Line Industries, Inc.

Major General Charles E. Saltzman, United States Army Reserve, Retired, Former Undersecretary of State for Administration

Lieutenant General George M. Seignious, II, United States Army, Retired, Class of 1942, Former President of The Citadel, President, The Atlantic Council

Mr. James C. Self, Class of 1941, Chairman of Executive Committee, Greenwood Mills

Ambassador Richard Louis Walker, Retired, Former Ambassador to the Republic of Korea

Admiral Arleigh Burke, United States Navy, Retired, Member Emeritus

Senior Administrative Staff

Major General James A. Grimsley, Jr., USA, Ret.
President

Brigadier General George F. Meenaghan
Vice President for Academic Affairs and Dean of the College

Colonel Robert H. Barton, Jr., USA, Ret.
Vice President for Administration

Colonel Calvin G. Lyons, USA, Ret.
Vice President for Financial Management

Colonel Joseph P. Goodson, USMC, Ret.
Executive Assistant to the President

Colonel Arthur E. Richards, III, USA, Ret.
Commandant of Cadets

Colonel Isaac S. Metts, Jr.
Dean of Undergraduate Studies

Lieutenant Colonel Michael B. Barrett
Dean of Graduate Studies

Major General Wallace E. Anderson
Dean Emeritus

Administrative Department Directors

Major Elise Davis-McFarland
Director of Academic Planning and Research

Major Wallace I. West
Director of Admissions and Recruiting

Commander Malachy J. Collet
Director Archives/Museum

Major Henry A. Kennedy, Jr.
Director of Alumni Affairs and Placement/Association of Citadel Men

Mr. Walter Nadzak, Jr.
Director of Athletics

Mr. T. Les McElwee
Executive Director, Brigadier Club

Commander Gordon E. Garthe, USN, Ret.
Director of Chaplaincy/Chaplain to Corps of Cadets

Mr. Richard W. Rieger
Executive Director, Citadel Development Foundation

Lieutenant Colonel Harvey M. Dick, USA, Ret.
Assistant Commandant of Cadets

Mr. Robert E. Welch, Jr.
Director of Computer Services/Information Resource Management

Lieutenant Colonel W. Gordon Knight, Jr.
Controller

Mr. James L. Adams
Director of Development

Major Patricia A. Ezell
Director of Evening College and Summer School

Major Vance E. Hightower
Director of Financial Aid/Scholarship

Mrs. Susan B. McLeod
Internal Auditor

Lieutenant Colonel Robert J. Wood
Director of Library Services

Lieutenant Colonel Lee V.E. Martin
Director of Personnel and Administrative Services

Lieutenant Colonel Robert W. Collins
Director of Physical Plant

Captain William D. Brady, Jr.
Director of Procurement Services

Lieutenant Colonel Ben W. Legare, Jr., USA, Ret.
Director of Public Relations/Special Assistant for Governmental Affairs

Colonel George B. Stackhouse, USAF, Ret.
Director of Public Safety/Provost Marshall

Major Ron F. Gaskins
Registrar

Lieutenant Colonel Lyons H. Williams, USA, Ret.
Director of Student Activities

Other Administrative Staff Departments

olonel D. Oliver Bowman
Director of Student Counseling Center

ajor Myriam Boyter
Treasurer

ajor Gary E. Cathcart
Director of Budget

aptain Carla M. DeMille
Assistant Registrar

aptain Samuel G. Evans, III
Deputy Director, The Citadel Summer Camp for Boys

ieutenant Colonel Eugene F. Lesesne
Director of Intramurals and Sports Clubs

ieutenant Colonel Dennis L. Rebber
Director of MBA Program

aptain Angela Williams
Director of Writing Center

Auxiliary Activity Directors

Mr. Elton B. Coleman
Director of Dining Services

Mr. Arthur D. Erickson
Director of Laundry and Dry Cleaning

Major J. C. Franz, M.D.
Surgeon and Infirmary Administrator

Mr. Tommy Hunter
Manager, Cadet Store

Mr. Gordon D. Knight
Manager, Print Shop

Mrs. Vera W. Mims
Director of Canteen Activities

Faculty

James Alexander Grimsley, Jr., Major General, USA, Retired
B.S. in Business Administration, The Citadel; M.A., in Internation Affairs, George Washington University; D.Hum., Francis Marion Colleg
President

George Francis Meenaghan, Brigadier General
B.S., M.S., Ph.D., Virginia Polytechnic Institute
Vice President for Academic Affairs and Dean of the College

Larry Holbrook Addington, Colonel
A.B., M.A., University of North Carolina; Ph.D., Duke University
Professor of History and Citadel Development Foundation Facult Fellow

Saul Joseph Adelman, Major
B.S., University of Maryland; Ph.D., California Institute of Technolog
Associate Professor of Physics and Citadel Development Foundatio Faculty Fellow

Harold Brice Alexander, Lieutenant Colonel
B.A., The Citadel; M.A., Duke University
Associate Professor of English

James Michael Alford, Major, USAF, Retired
B.S., United States Naval Academy; MSIE, University of Oklahoma Ph.D., University of Georgia
Associate Professor of Business Administration

David G. Allen, Major
B.A., Assumption College; M.A., Ph.D., Duke University
Associate Professor of English

Thomas Joseph Anessi, Major
B.C.E., Catholic University of America; M.S.E., University of Michigan; Ph.D., University of Oklahoma
Associate Professor of Civil Engineering

Salvatore Alfred Arcilesi, Colonel
B.A., The Citadel; Ph.D., University of Virginia
Professor of Political Science

Harold William Askins, Jr., Lieutenant Colonel
B.S. in E.E., The Citadel; M.S., Clemson University; Ph.D., Purdue University; P.E. (South Carolina)
Professor of Electrical Engineering

Tod Atkins Baker, Lieutenant Colonel
B.A., University of Alabama; M.S., Ph.D., University of Tennessee
Professor of Political Science

Robert Edward Baldwin, Colonel
B.S., The Citadel; M.S., Ph.D., University of South Carolina
Professor and Head, Department of Biology

Alva Ray Ballentine, Colonel
B.S., M.S., Ph.D., University of South Carolina
Professor of Chemistry

Joseph Gregory Balskus, Captain, USAF
B.S., M.S., Eastern Illinois University
Assistant Professor of Aerospace Studies

William Roy Barfield
B.S., M.A., Western Carolina University
Assistant Professor of Physical Education

Michael Baker Barrett, Lieutenant Colonel
B.A., The Citadel; M.A., Ph.D., University of Massachusetts
Associate Professor of History and Dean of Graduate Studies

Mark Alan Bebensee, Major
B.A., Millsaps College; M.A., Ph.D., Duke University
Associate Professor of Business Administration and Assistant to the Dean of Undergraduate Studies

Donald A. Beers, Major
B.A., M.A.T., The Citadel; Ed.D., University of Tennessee
Associate Professor of Education

Paul Revere Benson, Jr., Lieutenant Colonel
B.S., Purdue University; M.A., Ph.D., Indiana University
Professor of Political Science

Joel Carl Berlinghieri, Lieutenant Colonel
B.S., Boston College; M.S., Ph.D., University of Rochester
Professor of Physics

Jane Carol Bishop, Captain
B.A., Vassar College; M.Phil., Ph.D., Columbia University
Assistant Professor of History

James Randal Blanton, Captain
B.S., Indiana State University; Ph.D., Texas A&M University
Assistant Professor of Chemistry

Dale Blizzard, Captain
B.A., University of South Carolina
Assistant Professor of Business Administration

Daniel Oliver Bowman, Colonel
B.A., Furman University; M.Ed., University of South Carolina; Ph.D. University of Georgia
Professor and Head, Department of Psychology

Thomas Clark Bowman, Major
B.A., Marietta College; M.A., Ohio University; Ph.D., Arizona Stat University
Associate Professor of Biology

Milton Lee Boykin, Captain, USNR
A.B., Birmingham-Southern College; M.A., American University; Ph.D., University of Alabama
Professor and Head, Department of Political Science

Kenneth P. Brannan, Captain
B.C.E., M.S., Auburn University; Ph.D., Virginia Polytechnic Institute
Assistant Professor of Civil Engineering

John Robert Braun, Major
A.B., Wheaton College; M.Ed., Ed.D., University of Georgia
Assistant Professor of Chemistry

Malcolm Michael Brennan, Colonel
B.S., Georgetown University; M.A., Catholic University of America; Ph.D., University of South Carolina
Professor of English

Patrick Ray Briggs, Major
B.A., California State University, Sacramento; Ph.D., University of Kansas
Associate Professor of Physics

John LaFayette Brittain, Lieutenant Colonel
B.A., M.A., Ph.D., University of Alabama
Professor of History

James Cozby Byrd, Jr., Lieutenant Colonel
B.S., University of South Carolina; M.A., Emory University; Ph.D., Clemson University
Associate Professor of Physics

William Bryan Byrne, III, Captain, USAF
B.B.A., Texas A&M University; M.B.A., St. Edward's University
Assistant Professor of Aerospace Studies

Ralph Chester Canevali, Captain
B.A., University of Hawaii-Hilo; A.M., Ph.D., Harvard University
Assistant Professor of History

John Stewart Carter, First Lieutenant
B.S., Oklahoma State University; M.Ed., The Citadel
Instructor of Physical Education

William Andrew Clawson
B.S.E., M.S.E., Henderson State College
Assistant Professor of Physical Education

Charles E. Cleaver, Lieutenant Colonel
B.S., Eastern Kentucky University; M.S., Ph.D., University of Kentucky
Professor and Head, Department of Mathematics and Computer Science

William James Clees, Lieutenant Colonel
B.A., Grove City College; M.Ed., Duquesne University; Ed.D., University of Pittsburgh
Professor of Education

Leslie Cohn, Major
B.S., University of Pennsylvania; M.S., Ph.D., University of Chicago
Associate Professor of Mathematics and Computer Science

Malachy Joseph Collet, Commander, USNR
A.B., University of Notre Dame; M.A., Georgetown University; Certificate of Arts Administration, Harvard University
Associate Professor and Director of Archives and Museum

Stephen Daniel Comer, Lieutenant Colonel
B.Sc., Ohio State University; M.A., University of California at Berkeley; Ph.D., University of Colorado
Professor of Mathematics and Computer Science and Citadel Development Foundation Faculty Fellow

Arthur Nicholas Corontzes, Lieutenant Colonel
A.B., University of South Carolina; M.L., Emory University
Associate Professor, Catalogue Librarian

John Stanford Coussons, Captain, USNR
B.A., Louisiana College; M.A., Ph.D., Louisiana State University
Professor and Head, Department of History

Leslie Harrison Crabtree, Major
B.S., M.A., University of Toronto; Ph.D., University of South Carolina
Associate Professor of Mathematics and Computer Science

Jerry Wayne Craig, Lieutenant Colonel
A.B., MAT, University of North Carolina; J.D., North Carolina Central University
Associate Professor of Business Administration

Emory Spear Crosby, Jr., Lieutenant Colonel
B.S., M.A., Western Kentucky University; Ph.D., Clemson University
Professor of Biology

George Leon Crumley, Lieutenant Colonel
B.S., M.S., Kansas State Teachers College
Associate Professor of Mathematics and Computer Science

Edward Braxton Davis, III, Lieutenant Colonel
B.A., Virginia Military Institute; Ph.D., University of Virginia
Professor of Political Science

William Allen Denig, Major
B.S., M.A., Ph.D., Ohio State University
Associate Professor of Mathematics and Computer Science

Andre Henri Deutz, Captain
Kandidaats, Doctoraal, University of Amsterdam; Ph.D., Wayne State University
Assistant Professor of Mathematics and Computer Science

rishna S. Dhir, Lieutenant Colonel
B.Tech., Indian Institute of Technology, Bombay, India; M.S., Michigan State University; M.B.A., University of Hawaii; D.B.A., University of Colorado
Professor and Head, Department of Business Administration

homas Raymond Dion, Major
B.S. in C.E., The Citadel; M.S. in C.E., Clemson University; P.E. and L.S. (South Carolina)
Associate Professor of Civil Engineering

ichael Desmond Doran, Colonel
A.B., M.A., Ph.D., Florida State University
Professor of Psychology

ouis Dominic Dornetto, Lieutenant Commander, USNR
B.S. in E.E., M.S. in E.E., Ph.D., University of Pittsburgh; P.E. (South Carolina)
Professor of Electrical Engineering

oland Otis Downing, Jr., Lieutenant, USN
B.S., Georgia Institute of Technology
Assistant Professor of Naval Science

anat Durgun, Major
M.S., Ph.D., Syracuse University
Associate Professor of Mathematics and Computer Science

uzanne Ozment Edwards, Major
B.S., M.A., East Carolina University; Ph.D., University of North Carolina, Greensboro
Associate Professor of English

Anne Eesley, Captain
B.A., Marietta College; M.A., University of Wisconsin-Madison; Ph.D., SUNY-Stony Brook
Assistant Professor of Modern Languages

Linda Kitchen Elksnin, Captain
B.F.A., Syracuse University; M.Ed., Ph.D., University of Virginia
Assistant Professor of Education

O. Robert Emory, Major
B.A., Catawba College; M.A., Ph.D., University of North Carolina
Associate Professor of Modern Languages

Joseph William Epple, Jr., Captain

B.S.E.E., The Citadel; M.S.E.E., Georgia Institute of Technology

Assistant Professor of Electrical Engineering

Thomas Charlton Evans, Jr., Colonel

B.S. in C.E., The Citadel; M.S., Carnegie Institute of Technology; Ph.D., University of Alabama; P.E. (South Carolina and Louisiana); L.S. (Louisiana)

Professor of Civil Engineering

William Allen Evans, Major

B.S., M.B.A., West Virginia University; D.B.A., Georgia State University

Associate Professor of Business Administration

Melvin Haskell Ezell, Jr., Colonel

B.S., East Carolina College; M.S., Ed.D., University of Tennessee

Professor of Physical Education

Frank Lynn Feigl, Colonel

B.S., Indiana University; M.A., Ball State Teachers College; P.E.D., Indiana University

Professor of Physical Education

Kirk A. Ferrell, Captain, USAF

B.A., West Virginia University; M.A., Pepperdine University

Assistant Professor of Aerospace Studies

Dennis Martin Forsythe, Lieutenant Colonel

B.S., Ohio University; M.S., Utah State University; Ph.D., Clemson University

Professor of Biology

Margaret Ann Francel, Captain

B.A., College of St. Teresa; M.S., Colorado State University; M.S., Ph.D., Emory University

Assistant Professor of Mathematics and Computer Science

Frank Dieter Frohlich, Lieutenant Colonel

B.S., M.A., University of Tennessee; Ph.D., Vanderbilt University

Associate Professor of Modern Languages

John William Gordon, Lieutenant Colonel, USMCR

B.A., The Citadel; M.A., Ph.D., Duke University

Professor of History

Peter Greim, Major
Ph.D., Freie Universitaet Berlin
Associate Professor of Mathematics and Computer Science

Joseph Francis Gundel, Major
B.S., The Ludovica Hungarian Royal Military Academy; M.A., Florida State University
Assistant Professor of Modern Languages

William Lane Harris, Colonel
B.A., M.A., Vanderbilt University; Ph.D., University of Florida
Professor of History

Richard Oliver Haughey, Captain, USCG, Retired
B.S., United States Coast Guard Academy; M.S., Nav. Engineer, Massachusetts Institute of Technology; M.B.A., The Citadel
Assistant Professor of Business Administration

Oren Leonidas Herring, Jr., Colonel
B.S. in E.E., The Citadel; M.S. in E.E., University of Michigan; P.E. (South Carolina)
Professor and Head, Department of Electrical Engineering

Arnold Johnston Hite, Captain
B.A., M.A., Clemson University
Assistant Professor of Business Administration

Woodrow Lee Holbein, Lieutenant Colonel
B.A., Baldwin-Wallace College; M.A., Western Reserve University
Associate Professor of English

Hughes Bayne Hoyle, III, Major
B.S., M.A., Ph.D., University of North Carolina at Chapel Hill
Associate Professor of Mathematics and Computer Science

Jody P. Huddleston
B.S., M.Ed., University of South Alabama
Assistant Professor of Physical Education

Herschel Curlee Hudson, Major
B.S., M.A., University of South Carolina; M.A., Ph.D., Indiana University
Associate Professor of Sociology and Anthropology

Spencer Peyton Hurd, Captain
B.S., Virginia Polytechnic Institute; M.Ed., Valdosta State College; M.A., Ph.D., University of Georgia
Assistant Professor of Mathematics and Computer Science

Weiler Reeder Hurren, Lieutenant Colonel
B.S., Utah State University; M.S., University of South Carolina; Ph.D., Brigham Young University
Professor and Head, Department of Physics

Jackson Reid Ingraham, Lieutenant Colonel
A.B., Atlantic Christian College; M.A., East Carolina University
Associate Professor of Mathematics and Computer Science

David Donovan Johnson, Colonel
B.S., M.A., University of Kansas; Ph.D., University of North Carolina
Professor and Head, Department of Modern Languages

Charles Frederick Jumper, Colonel
B.S., M.S., University of South Carolina; Ph.D., Florida State University
Professor and Head, Department of Chemistry

Bernard Joseph McLain Kelley, Jr., Major
B.S., Davidson College; M.S., Ph.D., Emory University
Associate Professor of Biology

Thomas Irby Kindel, Major
B.S., M.B.A., Ph.D., University of South Carolina
Associate Professor of Business Adminstration

Robert LeRoy King, Lieutenant Colonel
B.B.A., The University of Georgia; M.A., Ph.D., Michigan State University
The Robert A. Jolley Professor of Business Administration

Kenneth E. Krause, Colonel, USAF
B.S., United States Air Force Academy: M.B.A., Golden Gate University
Professor and Head, Department of Aerospace Studies

Margaret M. Lally
B.A., M.A., Ph.D., Case Western Reserve University
Assistant Professor of English

James S. Leonard, Captain
B.A., M.A., University of Tennessee (Knoxville); Ph.D., Brown University
Assistant Professor of English

Richard Kent Lester, Captain, USA
B.A., United States Military Academy
Assistant Professor of Military Science

Charles Lindbergh, Lieutenant Colonel, USAF, Retired
B.S. in C.E., The Citadel; M.S. in C.E., Ph.D., Oklahoma State University; P.E. (South Carolina and Oklahoma)
Professor and Head, Department of Civil Engineering

Lowell Beaty Lovin, Jr., Captain, USA
B.S., Appalachian State University
Assistant Professor of Military Science

Christopher R. McRae, Major
B.S., Georgetown University School of Languages & Linguistics; M.A., University of Alabama; Ph.D., Vanderbilt University
Associate Professor of Modern Languages

Ronald Alfred McWhirt, Lieutenant Colonel
A.B., Wofford College; M.A. Ph.D., University of South Carolina
Professor of Education

John Michael Mack, Lieutenant Colonel, USMC
B.S., North Texas State University; M.Ed., University of Virginia
Assistant Professor of Naval Science

Jimmy Magoulas, Colonel
B.A., The Citadel; M.A., East Carolina College; Ed.D., University of Virginia
Professor of Education

Aline Mattson Mahan, Lieutenant Colonel
B.S., M.S., Ph.D., University of Connecticut
Professor of Psychology

Thomas William Mahan, Colonel
B.A., M.A., Catholic University of America; M.A., Fairfield University; Ph.D., University of Connecticut
Professor of Education and Psychology

John Joseph Mahoney, Major
B.S. in Commerce, The Citadel; M.S., Georgia Institute of Technology
Assistant Professor of Business Administration

Peter Mailloux, Captain
B.A., Dartmouth College; Ph.D., University of California, Berkeley
Assistant Professor of English

Michael John Masterson, Major, USA
B.S., United States Military Academy
Assistant Professor of Military Science

Walter Bland Mathis, Jr., Lieutenant Colonel
B.A., The Citadel; M.A., Harvard University
Associate Professor of English

James Parker May, Lieutenant Colonel
A.B., Birmingham Southern College; M.S., University of North Carolina; Ph.D., Florida State University
Professor of Chemistry and Geology

John Hogshead Mayer, Colonel, USA
B.A., The Citadel; M.B.A., Texas Tech University
Professor and Head, Department of Military Science

James Edmund Maynard, Major
B.A., Berry College; M.S., Louisiana State University; M.A., Central Michigan University
Associate Professor, Circulations Librarian

Isaac Spigner Metts, Jr., Colonel
B.S., The Citadel; M.A., Ph.D., Vanderbilt University
Professor of Mathematics and Computer Science and Dean of Undergraduate Studies

Dorothy Perrin Moore, Major
B.S., University of Kentucky; M.A., Miami University; Ph.D., University of South Carolina
Associate Professor of Business Administration

Jamie Wallace Moore, Lieutenant Colonel
A.B., Denison University; M.A., University of Arkansas; Ph.D., University of North Carolina
Professor of History

Winfred Bobo Moore, Jr., Major
B.A., Furman University; M.A., Ph.D., Duke University
Associate Professor of History

Laurence Wayne Moreland, Lieutenant Colonel
A.B., Southern Methodist University; M.A., Duke University
Professor of Political Science

Walter Nadzak, Jr.
B.A., Denison University; M.S., Xavier University
Associate Professor of Physical Education and Director of Athletics

Herbert Thomas Nath, Major
B.S., Indiana State College of Pennsylvania; M.S. in L.S., Drexel Institute of Technology; Advanced M. of L.S., Florida State University
Associate Professor, Reference Librarian

Randy Nelson Nesbit
B.S., The Citadel
Assistant Professor of Physical Education

William Gary Nichols, Colonel
A.B., M.A., Ph.D., University of Alabama
Professor of History and Citadel Development Foundation Faculty Fellow

James Michael O'Neil, Major
A.B., University of New Hampshire; M.A., New York University
Associate Professor of English

Dan Terrell Ouzts, Major
B.A., M.Ed., Ph.D., University of South Carolina
Associate Professor of Education

Jean-Marie Paul Pages, Major
B.A., Ph.D., University of Alabama
Associate Professor of Mathematics and Computer Science

John Harmann Pieper, III, Lieutenant Colonel, USAFR
B.A., The Citadel; M.A., Emory University
Assistant Professor of Modern Languages

James Dominick Pietrangeli, Major
B.A., University of Virginia; M.A., Kent State University
Associate Professor of Psychology

Richard T. Pokryfka, Commander, USNR
B.A., Duquesne University; M.A., Ph.D., University of Pittsburgh
Professor of Business Administration

Douglas Porch, Lieutenant Colonel
B.A., University of the South; Ph.D., Corpus Christi College, Cambridge
The Mark W. Clark Professor of History

Richard Dwight Porcher, Jr., Lieutenant Colonel
B.S., College of Charleston; M.S., Ph.D., University of South Carolina
Professor of Biology

Chalmers Marshall Port
B.A., University of North Carolina; M.Ed., Pennsylvania State University
Assistant Professor of Physical Education

Sherman Edward Pyatt, Major
B.A., J.C. Smith University; M.L.S., Indiana University
Associate Professor, Reference Librarian

Gary E. Raisanen, Captain, USAF
B.A., M.B.A., Chaminade University
Assistant Professor of Aerospace Studies

Dennis Lee Rebber, Lieutenant Colonel
Major
B.S. in Business Administration, The Citadel; M.B.A., Ph.D., University of South Carolina
Associate Professor of Business Administration and Director of MBA Program

Tony Neil Redd, Colonel
B.A., Furman University; M.A., University of Virginia; Ph.D., University of South Carolina
Professor and Acting Head, Department of English

James Aldrich Wyman Rembert, Colonel
B.A., The Citadel; M.A., University of South Carolina; Ph.D., University of North Carolina; Ph.D., University of Cambridge
Professor of English

Peter John Rembiesa, Major
M.A., Ph.D., Jagellonian University
Associate Professor of Physics

William Paterson Rhett, Jr., Colonel, USAFR
B.S., College of Charleston; M.Div., Virginia Theological Seminary; M.Ed., Temple University; Ed.D., Auburn University
Professor of Education

Jack Wright Rhodes, Major
B.A., Randolph Macon College; M.A., Ph.D., University of South Carolina
Associate Professor of English and Director of The Citadel Honors Program

Thomas H. Richardson, Captain
B.A., Northeastern University; Ph.D., New Mexico State University
Assistant Professor of Chemistry

Timothy Charles Richardson, Major, USA
B.S., The Citadel
Assistant Professor of Military Science

Herbert Heinz Joachim Riedel, Captain
B.S., University of Pretoria; M.Math, Ph.D., University of Waterloo, Ontario
Assistant Professor of Mathematics and Computer Science

William C. Rowdon, Captain, USAF
B.S., The Citadel; M.S., Central Michigan University
Assistant Professor of Aerospace Studies

Gerald Luther Runey, Colonel
B.S., College of Charleston; M.S., Ph.D., University of South Carolina
Professor of Biology

Carey Rushing, Major
B.S., Mississippi College; M.S., University of Florida; Ph.D., University of South Carolina
Assistant Professor of Chemistry

Harry Charles Saxe
B.C.E., City College of New York; M.S.E., University of Florida; Sc.D., Massachusetts Institute of Technology
The Col. Louis LeTellier Distinguished Visiting Professor of Civil Engineering

John Frederic Schaefer, Lieutenant Colonel, USAF, Retired
B.S., United States Military Academy; M.B.A., Auburn University; M.S., Ph.D., Stanford University; P.E. (New Mexico)
Associate Professor of Electrical Engineering

Frank Seabury, Jr., Major
A.B., M.S., University of Miami; Ph.D., Texas A&M University
Associate Professor of Biology

William Chanbliss Sharbrough, Captain
M.S., M.B.A., Mississippi State University; Ph.D., Louisiana State University
Assistant Professor of Business Administration

James Kenneth Shelton, Lieutenant Colonel
B.S., Appalachian State University; M.S., Radford College; Ed.D., Virginia Polytechnic Institute
Professor of Education

David Sanford Shields, Captain
B.A., College of William and Mary; M.A., Ph.D., University of Chicago
Assistant Professor of English

Charles P. Smiley, Captain, USAF
B.S., United States Air Force Academy; M.S., Air Force Institute of Technology
Assistant Professor of Aerospace Studies

Malcolm E. Smith, Jr., Colonel, USMC
B.A., The Citadel
Professor and Head, Department of Naval Science

John Philip Smyth, Colonel
B.A., M.S., Indiana State University; P.E.D., Indiana University
Professor and Head, Department of Physical Education

Donald Lee Sparks, Captain
B.A., George Washington University; M.A., Ph.D., University of London
Assistant Professor of Business Administration

Christopher Bennett Spivey, Lieutenant Colonel
B.S., United States Military Academy; M.B.A., University of North Carolina; Ph.D., North Texas State University
Professor of Business Administration

Grant B. Staley, Major
B.A., M.A., Brigham Young University; Ph.D., University of Utah
Associate Professor of Modern Languages

Robert Preston Steed, Lieutenant Colonel
B.A., University of Alabama; M.A., Ph.D., University of Virginia
Professor of Political Science

ack Augustus Stinson, Jr., Captain
B.S., Clemson University; M.E., Ph.D., University of South Carolina; P.E. (South Carolina)
Assistant Professor of Electrical Engineering

ussell Hutcherson Stout, Jr., Major
B.S. in C.E., The Citadel; M.S. in C.E., Georgia Institute of Technology; P.E. (Virginia and South Carolina)
Associate Professor of Civil Engineering

rnold Bruce Strauch, Major
B.A., University of North Carolina; M.A., Oxford University; J.D., University of North Carolina
Associate Professor of Business Administration

ouglas Eugene Styles, Lieutenant Colonel
B.S., Appalachian State Teachers College; M.A., Appalachian State University; Ed.D., University of Tennessee, Knoxville
Associate Professor of Physical Education

onald K. Templeton, Colonel
B.S., M.A., Ed.D., Ball State University
Professor and Head, Department of Education, and Director of Teacher Education

avid Anthony Trautman, Captain
B.A., Drake University; M.A., Ph.D., University of Missouri-Columbia
Assistant Professor of Mathematics and Computer Science

oseph Frederick Tripp, Lieutenant Colonel
A.B., Georgetown University; M.A., University of Kansas; Ph.D., University of Washington
Professor of History

dward Frederick John Tucker, Lieutenant Colonel
B.A., West Liberty State College; M.A., University of Illinois; Ph.D., Harvard University
Professor and Head, Department of English

oseph Wright Twinam
B.A., University of Virginia
The John C. West Professor of Government

yon Gardiner Tyler, Jr., Commander, USNR
A.B., College of William and Mary; J.D., University of Virginia; M.A., Ph.D., Duke University
Professor of History

Frederick Lance Wallace, Lieutenant Colonel
B.S., Iowa Wesleyan College; M.S., Oklahoma State University;Ph.D., Clemson University
Professor of Biology

Gordon Alan Wallace, Major
B.A., American International College; M.Ed., University of Massachusetts; C.A.G.S., Ph.D., University of New Mexico
Associate Professor of Education

David Henry White, Jr., Lieutenant Colonel, USMCR
A.B., University of North Carolina; M.A., Ph.D., Tulane University
Professor of History

Robert Ashlin White, Lieutenant Colonel
A.B., Davidson College; M.A., University of Georgia; M.Phil., Ph.D., University of Kansas
Professor of English

James Robert Whitney, Lieutenant Colonel
B.S. in Business Administration, The Citadel; M.B.A., University of North Carolina; C.P.A.
Associate Professor of Business Administration

William R. Williams, Major
B.S., M.Ed., Ohio University; Ph.D., Ohio State University
Associate Professor of Education

Josephine Brown Williamson, Captain
B.A., Peabody College; M.A. in L.S., Northern Illinois University; M.Ed., Converse College
Assistant Professor of Library Science

Gary Lee Wilson, Major
B.S., Oklahoma Baptist University; M.S., Ed.D., University of Tennessee, Knoxville
Associate Professor of Physical Education

John Harvey Wittschen, Jr., Colonel
B.S., Presbyterian College; M.B.A., University of South Carolina; Ph.D., University of Alabama
Professor of Business Administration

Michael Hoi Sing Woo, Captain
B.S., University of Dundee, United Kingdom; M.S., Ph.D., Clemson University
Assistant Professor of Civil Engineering

Richard J. Wood, Lieutenant Colonel
B.S., M.L.S., Ph.D., University of Pittsburgh
Associate Professor and Director of Library Services

Warren William Woolsey, Captain
B.A., M.A., Virginia Polytechnic Institute and State University
Assistant Professor of Business Administration

Muhammad Ishaq Zahid, Captain
M.Sc., M.Phil., Islamabad University, Pakistan; M.A., Ph.D., University of Pittsburgh
Assistant Professor of Mathematics and Computer Science

VISITING FACULTY

Barbara Taylor Allen
B.A., University of South Carolina; M.A., Duke University
Instructor of English

Jeri Olejniczak Cabot
B.A., University of California; A.M., Ph.D., Duke University
Assistant Professor of Business Administration

Kenneth H. Foote, CPA
B.S., University of Colorado; M.B.A., Ohio State University
Assistant Professor of Business Administration

Ellen L. Friedrich
A.B., M.A.T., University of Georgia
Instructor of Modern Languages

Celia Childress Halford
A.B., University of South Carolina; M.F.A., University of Georgia
Instructor of English

Clyde Larry Hiers, CPA
B.S., Baptist College at Charleston; M.S., California State University
Assistant Professor of Business Administration

Beau Jon Pettijohn
B.S., The Citadel; M.B.A., Winthrop College
Instructor of Business Administration

Graham Sibery
B.A., M.A., Oxford University; M.A., Ph.D., University of South Carolina
Assistant Professor of Political Science

EMERITI FACULTY

Robert Spencer Adden, Ph.D., *Professor of Business Administration*
Wallace Ervin Anderson, Ph.D., D.Sci., *Dean of the College*
Jep Harmon Bailey, M.A., *Assistant Professor of Physics*
Lucius Beebe, Ph.D., *Associate Professor of Political Science*
James Douglas Blanding, Ed.D., *Professor of Education*
Robert Franklin Brand, Ph.D., *Associate Professor of Modern Languages*
Chaford Acquilla Brown, M.S., *Associate Professor of Mathematics and Computer Science*
James Albert Browning, M.S., *Associate Professor of Chemistry*
James Berry Carpenter, Jr., M.A., *Associate Professor of English*
Lynn Vernon DeMille, M.A., *Assistant Professor of Modern Languages*
John Robert Doyle, Jr., M.A., *Professor of English*
James William Duckett, Ph.D., *Past President, Professor of Chemistry*
Charles Eugene Durkee, M.Ed., *Associate Professor of Chemistry*
Leaman Andrew Dye, Ph.D., *Professor of Mathematics*
Robert Bartlett Folsom, M.A., *Associate Professor of Mathematics*
Leonard Henry Fortunato, M.Litt., *Associate Professor of History*
James Geraty Harrison, Ph.D., *Professor of English*
Jesse Lee Hill, M.Ed., *Assistant Professor of Mathematics*
James Milton Hillard, M.L.S., *Professor, The Daniel Library*
Loring Kenneth Himelright, M.S., Eng.D., *Professor of Civil Engineering*
Charles Edward Hirshey, Ed.D., *Professor of Education*
Stacy Lloyd Hull, M.S., *Assistant Professor of Mathematics*
William Strong Hummers, Jr., Ph.D., *Professor of Chemistry*
Lee Pressley Hutchison, Ph.D., *Professor of Mathematics*
Gus Jacob Hutto, B.S. in C.E., *Associate Professor of Civil Engineering*
Marvin Leslie Infinger, M.A., *Associate Professor of Business Administration*
Benjamin Richard Johnson, M.A., *Associate Professor of Physics*
Enoch Lawrence Lee, Jr., Ph.D., *Professor of History*
Rupert Walker Legare, Jr., M.S., *Assistant Professor of Business Administration*
Maurice John Lenhardt, A.B., *Assistant Professor of Education*
Charles Lucas, M.A., *Assistant Professor of Business Administration*
Norman MacLeod, M.A., *Assistant Professor of English*
Charles Clifton Martin, Jr., Ph.D., *Professor of History*
Leon Raymond Masters, M.A., *Associate Professor of Business Administration*

David Archibald McDowell, Ph.D., *Professor of English*
James Herbert McIntyre, M.A., *Associate Professor of Mathematics and Computer Science*
John Charles Mettler, Ph.D., *Professor of Business Administration*
Lewis Blake Middleton, B.S., *Assistant Professor of Civil Engineering*
Luke Theodore Pappas, Ph.D., *Professor of Modern Languages*
Hugh Owens Peurifoy, M.A., *Assistant Professor of English*
Zachary Taylor Ralston, Ph.D., *Professor of Modern Languages*
John Allen Riley, Ph.D., *Associate Professor of English*
John Alvah Lee Saunders, M.A., *Associate Professor of Mathematics*
James Franklin Scoggin, Jr., Ph.D., *Professor of Electrical Engineering*
Harrison Stewart Smith, M.E., C.E., *Associate Professor of Civil Engineering*
Judson Cauthen Spence, Sr., Ph.D., *Professor of Modern Languages*
Charles Samuel Sutton, M.S., *Professor of Mathematics*
Russell Emery Thompson, M.A., *Associate Professor of Mathematics and Computer Science*
VanCleave Parrott Warren. M.A., *Assistant Professor of Modern Languages*
Francis Sidney Walls, M.A., *Assistant Professor of Modern Languages*
Samuel Adam Wideman, Ph.D., *Professor of Chemistry*
Joseph Ridley Wilkinson, Ph.D., *Professor of Chemistry*
Augustus Thomas Wilson, M.S., *Associate Professor of Business Administration*
James Isaac Young, MBA, *Professor of Business Administration*

Index

	Page
Academic Policies	31
Academic Probation and Discharge	41
Academic Warning	40
Acceptances and Withdrawals	29
Account Deposit	69
Account Statement	70
Accreditation	12
Achievement Tests	24
Administrative Department and Activity Directors	323
Other Administrative Staff Departments	325
Admission Procedure	21
Admission, Requirements for (Admission Policy)	20
Advanced Placement and Credit	26
Advisory Committee to the Board of Visitors	322
Advisory Services	15
Aerospace Studies, Department of	166
Air Force ROTC Program	62
Anthropology, Courses in	316
Archives	16
Army ROTC Program	57
Athletics, Department of Intercollegiate	112
Audit Status	38
Automobiles	52
Auxiliary Activity Directors	325
Awards, Academic	115
Awards, Military	118
Band	111
Beach Club	109

Biology, Department of 169
Board of Visitors 321
Boating Center 111
Business Administration, Department of 179
Calendar, College 6
Campus Ministry 13
Chemistry, Department of 187
Civil Engineering, Department of 197
Class Attendance 39
Classification of Cadets 44
Clothing and Bedding Required 74
Clubs and Societies 111
College Entrance Examination Board (CEEB) 24
Commandant of Cadets 50
Computer Center 17
Computer Science, Courses in 251
Confidentiality of Student Records 47
Counseling Services 15
Course Overload 37
Courses of Study 129
Customs and Courtesies 51
Daniel Library 16
Day Students 44, 77
Degrees 34
Demerits 51
Deposit for Books, Supplies, Uniforms, and Accessories 69
Discharge, Academic 41
Discipline 50
Education, Department of 209
Educational Requirements 22

Electrical Engineering, Department of 221
Emeriti Faculty 344
Employment 76
English, Department of 229
Entrance Examination 24
Evening College 125
Expenses 67
Faculty 326
Fees 67
Financial Aid 101
Fine Arts, Courses in 219
Fine Arts Series 110
Fourth Class System 54
French, Courses in 269
Geography, Courses in 250
Geology, Courses in 195
German, Courses in 267
Grade Point Ratio (GPR) 32
Grades 31
Grades, Pass-Fail System 38
Graduate Courses 45
Graduation, Requirements for 35
Greater Issues Series 18
Greek, Courses in 266
Health Education, Courses in 292
History, Department of 240
History of The Citadel 9
Honor System 18
Honors
  Academic 115

  Commencement 114
  Military 118
Honors Program 123
Hostess 109
Infirmary 76
Insurance 76
Intercollegiate Athletics, Department of 112
Intramurals 284
Italian, Courses in 271
Latin, Courses in 266
Leaves: Emergency, Special, and Weekend 53
Library 16
Library Science, Courses in 220
Loans and Grants 102
Luggage 75
Marine Corps ROTC Program 59
Mathematics and Computer Science, Department of 251
Medical Care 53,76
Military Environment, Purpose of The Citadel's 13
Military Policies 50
Military Science, Department of 261
Ministry, Campus 13
Modern Languages, Department of 265
Money, Pocket 68
Motorcyles 52
Naval Science, Department of 275
Navy/ Marine ROTC Program 59
Objectives of The Citadel 12
Overload, Course 37
Payments, Schedule of 72
Philosophy, Courses in 237

Physical Conditioning 55
Physical Education, Department of 280
Physical Examinations 21
Physics, Department of 295
Political Science, Department of 303
Premedical Courses 170, 188
Probation, Academic 42
Promotions, Academic 44
Psychology, Department of 317
Readmission 43
Refunds 73
Required Physical Education 280
Requirements for Admission 20
Requirements for Graduation 35
Reserve Officers' Training Corps 57
Reserve Officers' Training Corps, Allowances 58, 62, 65
ROTC Programs 57
Russian, Courses in 273
Scholarships 58, 60, 66, 80, 106
Scholastic Aptitude Tests 24
Senior Administrative Staff 323
Social Events 110
Sociology, Courses in 315
Spanish, Courses in 271
Sports 112
Sports Club Program 285
Statement of Student's Account 70
Student Activities, Department of 109
Summer Session 78
Supplemental Study Periods 42
Test of English as a Foreign Language 24

Transfer Between ROTC Programs 46
Transfer Credits 33
Uniforms 70
Veteran Students 77
Veterans Benefits 106
Visiting Faculty 343
Withdrawals from Courses 31

DANIEL LIBRARY - THE CITADEL
0 00 10 0249262 5

AMERICAN BINDERIES 8